

WHAT MOVES YOU? ADOPTION AND MAINTENANCE OF
PHYSICAL ACTIVITY AMONG MIDLIFE AND OLDER
AFRICAN AMERICAN WOMEN

by

AUDREY L. AUSTIN

MARTHA R. CROWTHER, COMMITTEE CHAIR
GIYEON KIM
REBECCA KELLY
STEVEN PRENTICE-DUNN
BEVERLY E. THORN

A DISSERTATION

Submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy
in the Department of Psychology
in the Graduate School of
The University of Alabama

TUSCALOOSA, ALABAMA

2013

Copyright Audrey L. Austin 2013
ALL RIGHTS RESERVED

ABSTRACT

Middle-aged and older African American women report the lowest rates of physical activity compared to men, younger women, and similarly aged White women, as well as higher death rates from conditions associated with physical inactivity. Though inactivity among African American women has received increased attention since the early 1990s, research regarding how older African American women successfully increase and maintain their physical activity levels is lacking. The current study aimed to identify factors associated with successful adoption and maintenance of physical activity among active midlife and older African American women. The study also assessed the applicability of the Physical Activity Evolution model as an explanatory framework for physical activity development among this population.

Open-ended individual interviews were conducted with 15 African American women aged 45 years and older who reported engagement in physical activity at nationally recommended levels for 6 months or more. Data from the interviews were analyzed using deductive qualitative analysis methods. Results suggest that using scheduling strategies, receiving support from others, and experiencing noticeable benefits of physical activity are key factors in older African American women's progression toward a physically active lifestyle. These findings were consistent with the Physical Activity Evolution model.

ACKNOWLEDGMENTS

I am exceedingly grateful to the women who shared their time and stories with me for the study interviews. These women were inspiring and encouraging, and this project would not have been possible without their participation. I am also appreciative of the many individuals throughout the Tuscaloosa community who assisted with recruitment for this study by posting fliers and otherwise facilitating access to potential participants. Much thanks is due to Robyn Rives of Curves, Dr. Stacy Jones of Zeta Phi Beta Sorority, Inc., Dr. Milady Murphy of the Wellness Center at Shelton State Community College, and numerous others. I must also thank the members of my dissertation committee for their ongoing patience and support during this research journey. My utmost thanks is due to the family and friends who have expressed confidence in me and provided unfailing support through all that I do. Thank you all. Finally, to my wonderful husband and son, thanks for hanging in there with me. I love you both, immensely and always.

CONTENTS

ABSTRACT.....	ii
ACKNOWLEDGMENTS.....	iii
LIST OF TABLES.....	vi
LIST OF FIGURES.....	vii
1. INTRODUCTION.....	1
a. Physical Activity Interventions among Older African American Women.....	6
b. Correlates of Physical Activity among Older African American Women.....	11
c. Physically Active Older Women.....	15
d. Theoretical Frameworks for Physical Activity Behavior Change.....	16
e. The Physical Activity Evolution Model.....	22
f. Comparison of the Physical Activity Evolution Model with Previously Supported Theory...	26
g. Purpose of the Study.....	28
2. METHODOLOGY.....	31
a. Study Design.....	31
b. Participants.....	32
c. Data Collection and Measures.....	32
d. Procedures.....	35
e. Data Analysis.....	36

3. RESULTS.....	39
a. Recruitment and Sampling.....	39
b. Participant Characteristics.....	40
c. Applicability of the Physical Activity Evolution Model.....	43
d. Contexts Associated with Physical Activity.....	56
e. Conditions Influencing Physical Activity.....	65
4. DISCUSSION.....	88
a. Theoretical Comparisons.....	88
b. Implications.....	93
c. Limitations.....	94
d. Directions for Future Study.....	96
e. Conclusion.....	97
REFERENCES.....	99
APPENDIX.....	105

LIST OF TABLES

1. Participant Demographic Characteristics.....	41
2. Participant Activities and Duration.....	42

LIST OF FIGURES

1. Physical Activity Evolution Model.....	23
---	----

CHAPTER 1

INTRODUCTION

Engagement in regular physical activity has long been recognized as a means of promoting and maintaining physical and mental health. Regardless of age, ethnicity, body size, or other personal characteristics, all individuals may reap the potential benefits of physical activity, which include weight control, improved mood, bone and muscle strengthening, improved ability to perform daily activities, increased chance of longevity, and reduced risk of cardiovascular disease, diabetes, metabolic syndrome, and some cancers (Centers for Disease Control and Prevention [CDC], 2008). To promote increased physical activity and dispel public misconceptions that health benefits could only be achieved through continuous, vigorous exercise, the Centers for Disease Control and Prevention and the American College of Sports Medicine issued a recommendation in 1995 that every U.S. adult should accumulate 30 minutes or more of moderate-intensity activity on most, and preferably all, days of the week (Pate et al., 1995). This guideline was later updated to further clarify the type and amount of activity needed, resulting in a recommendation for moderate-intensity aerobic activity for a minimum of 30 minutes on five days per week, vigorous-intensity aerobic activity for a minimum of 20 minutes on three days per week, or a combination of moderate- and vigorous-intensity activity (Haskell et al., 2007). The latest guidelines, issued by the federal government, now recommend weekly engagement in at least 75 minutes of vigorous-intensity aerobic activity, 150 minutes of moderate-intensity aerobic activity, or an equivalent combination (U.S. Department of Health and Human Services [HHS], 2008).

Despite the numerous, well-documented benefits of physical activity, most people do not meet recommended public health guidelines for weekly activity. National survey data indicated that, as of 2005, fewer than half of American men and women – specifically, 46.7% of women and 49.7% of men – regularly engaged in at least 30 minutes a day of moderate-intensity activity on five or more days a week or at least 20 minutes a day of vigorous-intensity activity on three or more days a week (Kruger, Kohl, & Miles, 2007). These rates had increased only slightly by 2009, when 51% of surveyed Americans reported physical activity engagement at recommended levels (CDC, 2009). Physical inactivity increases with age and is especially prevalent among women aged 65 years and older, who report the lowest rates of regular activity (36.3%) compared to younger women and men of all ages (Kruger, Kohl, & Miles, 2007). Lack of engagement in physical activity is also common among African American women, who have frequently been found to have a higher prevalence of inactivity relative to women of most other ethnic backgrounds.

African American women's engagement in physical activity is commonly reported as lower than other demographic subgroups, with the possible exception of Mexican American women. Data from the National Health and Nutrition Examination Survey, conducted between 1988 and 1994, indicated that Mexican American women had the highest prevalence of inactivity (45.7%) compared with African American women (41.2%) and White women (23.5%; Crespo, Smit, Andersen, Carter-Pokras, & Ainsworth, 2000). However, there is also evidence to suggest that Mexican American women may be more likely to achieve recommended levels of physical activity compared with African American women. For example, Ransdell and Wells (1998) found that 11% of Mexican-American women – compared with 8% of African American women

and 13% of White women – reported participation in at least 30 minutes of moderate to vigorous physical activity on five or more days per week.

African American women's physical activity rates are most often compared with activity rates among White women. Additional comparisons to other ethnic minority groups are typically made relative to broader categories, such as Hispanics in general or a combined subset of women from other diverse ethnic backgrounds. Data from the 1990 National Health Interview Survey indicated that 25.7% of African American women, compared to 31.2% of White women, met recommendations to accumulate at least 30 minutes of moderate-intensity activity on most days of the week (Jones et al, 1998). A slightly higher percentage of African American women reported regular activity in comparison to Hispanic women (24.6%) and women of other ethnic backgrounds (24.5%); however, these rates did not differ significantly (Jones et al, 1998). In a more recent national survey, the prevalence of regular physical activity on 5 or more days per week was found to be 36.1% among African American women, compared to 49.6% among White women, 40.5% among Hispanic women, and 46.6% among women of other races (Kruger, Kohl, & Miles, 2007). Not only are African American women less likely to achieve recommended levels of leisure-time physical activity, they may be generally less physically active overall. For example, Brownson and colleagues (2000) found that, compared to White, Hispanic, and American Indian/Alaskan Native women, African American women were less likely to report engagement in any one of multiple domains of physical activity – including leisure-time physical activity as well as vigorous housework or occupational activity.

Compared to White women, African American women experience higher rates of several conditions associated with physical inactivity, including cardiovascular disease, hypertension, diabetes, metabolic syndrome, and obesity (American Heart Association, 2009). As noted

previously, engagement in regular physical activity is associated with reduced risk of these conditions; thus, the higher rate of inactivity among African American women may be a key contributor to health disparities between African American and White women. One recent comparison of national survey results revealed that, from the year 2001 to the year 2005, the prevalence of regular physical activity among American adults increased, with the largest increase (15%) observed among African American women (Kruger, Kohl, & Miles, 2007), potentially attributable in part to increased public health efforts to promote physical activity. Despite this positive change, rates of physical activity remain lower among African American women compared with other groups, and disparities in physical activity levels and related health indicators persist.

This issue merits particular concern with regard to midlife and older African American women, who report the lowest rates of physical activity compared to men, younger women, and similarly aged White women (Kruger, Kohl, & Miles, 2007; Whitt-Glover, Taylor, Heath, & Macera, 2007), as well as higher death rates from conditions associated with physical inactivity. Among women ages 45-65 years, compared to White women, the rates of death of African Americans are 2.51 times, 2.79 times, and 3.04 times greater for heart diseases, cerebrovascular diseases, and diabetes, respectively (Misra, 2001). The differences become less pronounced with increasing age; however, older African American women continue to experience higher mortality compared to White women. Among women age 65 and older, death rates from heart diseases, cerebrovascular diseases, and diabetes are 1.07, 1.08, and 2.23 times greater for African American women compared to White women (Misra, 2001).

In the early 1990s, several researchers and institutions called for increased study of physical activity among women – and women of color in particular – with the expectation that

enhanced knowledge of participation rates, preferences, perceived benefits and barriers, and predictors of activity among diverse groups would facilitate development of health promotion strategies and interventions to increase physical activity (Ransdell & Wells, 1998). Recognizing this need for additional research on minority health, the Centers for Disease Control and Prevention funded several projects in the 1990s exploring physical activity participation among ethnic minority groups, including African American women (Henderson & Ainsworth, 2003). Since that time, researchers have identified many correlates of physical activity and inactivity among African American women and explored the efficacy and effectiveness of interventions to increase activity within this group. Though previous research produced valuable findings that may have contributed to positive changes in physical activity participation, the persistently low rates of physical activity among midlife and older African American women and the high illness burden these women bear associated with sedentary lifestyles suggests that continued research on ways to increase levels of physical activity among this population is needed.

Physical activity – or more accurately, the lack of physical activity – among African American women has been a topic of researcher interest for many years; however, the majority of studies have not focused on older women and far fewer have investigated the experiences of women who have successfully become physically active. The current research literature has highlighted the need for increased physical activity among aging African American women and exposed many factors that prevent this population from being more active. Additionally, older African American women’s successful engagement in physical activity has been documented through some reports of modest activity increases during intervention trials. Yet, research regarding how older African American women are able to increase their activity levels and maintain physical activity participation – following an intervention or without involvement in

such programs – is largely lacking. Physically active midlife and older women are an understudied population whose experiences, if examined and documented, could better inform future efforts to promote increased activity among women who remain sedentary. Given the need for additional research in this area, this dissertation study examined the adoption and maintenance of physical activity among midlife and older African American women who have successfully incorporated physical activity into their lives. The study also evaluated the applicability of a recently developed theoretical framework – the Physical Activity Evolution model – to explain the process by which a physically active lifestyle is established among midlife and older African American women.

Physical Activity Interventions among Older African American Women

Over the past two decades, researchers have attempted to address disparities in physical activity level and related health conditions by investigating physical inactivity among African American women and developing and testing interventions to increase activity among this population. Surprisingly, older African American women have been the subject of relatively few such studies, given their status as one of the most inactive segments of the population. In their review of the intervention literature, Banks-Wallace and Conn (2002) identified 18 studies in which African American women represented at least 35% of the sample. Of the identified studies, only four specifically targeted or included substantial numbers of older African American women. Few additional studies targeting this population have been published since the review. Increased physical activity was seldom the primary goal of early intervention studies with African American women. Instead, physical activity components might be included or recommended as an unassessed adjunct to programs emphasizing weight loss or management of

health conditions such as hypertension. Consequently, findings related to physical activity outcomes with older African American women are limited.

One early intervention by Matteson (1989) was designed to increase physical activity engagement among middle-aged and older adults. The study sample included older women and men of different ethnic backgrounds, ranging in age from 58 to 86; the majority of the sample were African American women. The intervention consisted of individualized educational and goal-setting sessions and group instruction of seated range-of-motion exercises. At three months, participants' self-reported minutes of weekly exercise had significantly increased compared to baseline.

Kanders et al. (1994) enrolled 67 overweight African American women, 40 to 64 years of age, in a 10-week weight loss program, which included interactive group sessions on nutrition, exercise, and behavior modification topics. Participants were placed on a low-calorie diet and were also advised to take three 15-minute walks weekly and to gradually increase this frequency and duration until they walked 200 minutes per week. Analysis of activity records submitted by the 61 women who completed the program revealed a significant increase in self-reported time spent walking.

McNabb and colleagues (1997) assigned 39 obese African American women, ranging in age from 42 to 71, to a 14-week weight loss program or a wait-list control group. The weight loss program consisted of church-based weekly group meetings and guided learning activities on weight loss, along with home-based, self-directed exercise. Participant exercise behavior was assessed through weekly self-report of the frequency, duration, and type of exercise engaged in during the previous week. After 14 weeks, participants in the weight control program had increased their average minutes of weekly exercise; however, their activity level was not

significantly different from participants in the control group, who also reported more minutes of activity.

African American participants, aged 55 to 79 years, in a randomized controlled trial of a weight loss and exercise intervention for diabetes management were assigned to either a usual care control group or a 12-week intervention comprised of one individual diet counseling session and weekly group meetings consisting of an hour of nutrition education followed by half an hour of exercise (Agurs-Collins, Kumanyika, Ten Have, & Adams-Campbell, 1997). The majority of participants were women. A key objective of the intervention was to promote participant engagement in moderate exercise for three days per week. Participants were encouraged to add two days of exercise along with their scheduled weekly session and to increase the level of activity in their daily routines. At three months, intervention participants demonstrated increased activity scores on the Physical Activity Scale for the Elderly (PASE); however, activity scores were not significantly different from baseline by six months.

Clark, Stump, and Damush (2003) conducted a chair-based and walking exercise intervention for women over age 50 recruited from primary care centers. The 123 women enrolled in the program (67% African American) were invited to free exercise classes offered at a local church and community center. Classes consisted of 20 minutes of seated or standing leg and arm movements followed by 30 minutes of indoor walking or 20 minutes of resistance exercises for those unable to walk. Participants were encouraged to attend classes at least three days per week, which would allow them to accumulate the federally recommended 150 minutes of moderate-intensity weekly activity. Participants were classified based on their level of adherence to this recommendation as indicated by class attendance. Participants demonstrating moderate adherence – that is, those who achieved 50% or more of the recommended minutes of

weekly activity through attendance at three classes – had a significant increase in average minutes of weekly physical activity compared to baseline. In addition, a significant difference in weekly activity (117 minutes) was reported between moderately adherent participants and those considered non-adherent.

Keller, Robinson, and Pickens (2004) compared two walking regimens to determine the level of exercise sufficient to achieve cardiovascular benefits while being of low enough intensity to facilitate regular maintenance among African American women. Participants in this 36-week randomized clinical trial included 29 obese and sedentary women, ages 45 to 70, who were assigned to one of two exercise protocols: (1) walking 60 minutes per day, three days per week or (2) walking 60 minutes per day, 5 days a week. The investigators reported a 41% attrition rate. Though decreases in body fat and hip size were noted at 12 weeks among the 17 women who did complete the program, the investigators noted that a rebound in these figures by the end of the program indicated that these women had not successfully integrated exercise into their routines. The study did not assess maintenance of activity beyond the 36-week intervention.

One interesting intervention was designed to promote physical activity among older African American women through their placement as elementary school volunteers, with the expectation that involvement in 15 hours of weekly service would promote increased activity through travel to and from the school, activity within the school, and additional social opportunities associated with the program (Tan et al., 2009). Physical activity outcomes of participants in the Experience Corps program (EC) in Baltimore, Maryland were compared with those of demographically similar women enrolled in the Baltimore Women's Health and Aging longitudinal observation study (WHAS). Outcomes for participants in both samples – which

included African American women aged 65 years and older – were assessed at three years follow-up based on calculation of kilocalories expended through activities reported on the modified Minnesota Leisure Time Physical Activity questionnaire. After adjustment for baseline physical activity, age, and frailty, a significant increase in physical activity was found for EC volunteers compared with women in the matched WHAS cohort.

A recent randomized controlled trial evaluated the efficacy of an 8-week, faith-based physical activity intervention for African American women aged 60 years and older (Duru, Sarkisian, Leng, & Mangione, 2010). Inclusion criteria included self-reported participation in less than 30 minutes of physical activity three days per week. Participants in the intervention group (n = 37) self-selected into smaller groups of three to four women, who participated in weekly 45-minute discussion meetings and 45-minutes of instructor-led exercise classes. The intervention curriculum consisted of a faith component (i.e., group prayer, scripture readings, and relation of the spiritual messages to physical activity and health), establishment and monitoring of personal and small group activity goals, and a walking competition. Participants in the control condition (n = 34) met weekly as a single large group for 45-minute lectures on topics unrelated to physical activity as well as participation in 45 minutes of instructor-led exercise classes. At 6-month follow-up, participants in the intervention group demonstrated a significant increase in walking activity by an average of 7,547 more pedometer-assessed steps compared to control participants.

The interventions cited above provide evidence, albeit limited, to suggest that interventions to promote physical activity can be at least modestly successful among older African American women. Yet, as Banks-Wallace and Conn (2002) have noted, results of physical activity interventions targeting African American women are often insignificant or

modest, short-term, and limited by small sample sizes, high attrition rates, and other design and measurement issues.

Correlates of Physical Activity among Older African American Women

In addition to the aforementioned intervention research, a small companion body of literature has examined demographic, psychological, social, and environmental correlates of physical activity among older African American women. These studies have tended to address factors influencing African American women in combination with or in comparison to those reported by women of other ethnic backgrounds, including American Indian and White women. For example, as part of a larger project known as the Cultural Activity Participation Study, Henderson and Ainsworth (2003) interviewed 30 African American women and 26 American Indian women, ranging in age from 40 to 89 years, regarding their perspectives and attitudes about physical activity, perceived motivators and constraints, and perceptions of social support. Though the women noted being busy with household tasks and work activities, they were largely characterized (by their own reports as well as the researchers) as sedentary. Participants generally associated physical activity with positive outcomes, such as feeling good and being healthy, but they reported a number of constraints to their personal engagement in physical activity. Such barriers included lack of time, job demands, fatigue, physical illness, expectations and needs of family and others, economic limitations, major life changes, safety concerns, weather, lack of facilities, and hassles of personal care, such as showering and hair maintenance. Of the women who did report engagement in physical activity, social networks were noted to contribute to a sense of empowerment and served as a source of companionship for physical activities.

In a separate analysis of the interviews cited above, Henderson and Ainsworth (2000) examined facilitators and barriers to walking – a form of activity noted by many of the women interviewed. The interviewees typically described walking as it related to their work responsibilities, a means of transportation, or a task related to pet care. However, some noted walking for health reasons. Though the health benefits of walking were acknowledged, these benefits did not appear to be a major motivating factor. Instead, most women who walked for reasons other than necessity or responsibility did so because they found the activity pleasurable. Additional enablers included ease of implementation, convenience, adaptability, and the flexibility of options for solitude or social contact. Noted constraints to walking for physical activity included seasonal or weather conditions, safety, physical and emotional fatigue, and lack of walking partners.

Wilcox, Bopp, Oberrecht, Kammermann, and McElmurray (2003) administered questionnaires to a rural sample of 102 African American and White women (41% African American) aged 50 years and older to examine the relation between physical activity and several demographic, psychosocial, and environmental variables. Specifically, the researchers assessed correlations between physical activity, as assessed by the Physical Activity Scale for the Elderly, and measures of demographic characteristics, self-efficacy, social support, depression, stress, decisional balance (that is, pros versus cons) of physical activity, physician recommendation for activity, and aspects of the physical environment. The women in the sample were generally sedentary, but did demonstrate some variability with regard to reported activity level. Hierarchical regression analyses indicated that younger age, fewer depressive symptoms, acknowledgement of more pros than cons for activity, not having a physician recommend activity, reported absence of neighborhood sidewalks, and greater perceived safety were

associated with higher levels of physical activity. Study participants were also asked to report self-perceived barriers and motivators for physical activity. Reported barriers included health problems, lack of time, family and household responsibilities, work responsibilities, community obligations, fatigue, and lack of self-motivation. Motivating factors included a desire for better health and the expectation of increased activity if healthier, as well as self-motivation, exercising with a partner or group, support from family and friends, mental health benefits, and improvements to the physical environment.

In a later study, Wilcox and colleagues (2005) conducted focus groups with underactive African American (n = 16) and White women (n = 23), age 50 years and older, to examine the women's perceptions, barriers, and motivators of physical activity. Participants were asked to discuss their perceptions of the terms "exercise" and "physical activity," the amount of exercise or physical activity older women should do, reactions to physical activity guidelines, perceived reasons for lower physical activity rates among older rural groups, and benefits, supports, barriers, and risks of physical activity. The women interviewed defined physical activity more broadly than exercise and noted a consistent perception that the appropriate amount of exercise "depends on the person." Though many participants felt that recommendations for physical activity were good for older women, a substantial number – particularly among the White women – believed the guidelines were not realistic. The physical health benefits of activity were most commonly cited across groups; however, White women were more likely to discuss mental health benefits, while the African American women were more likely to discuss weight and appearance. Reported barriers endorsed by all included competing family responsibilities, lack of social support, lack of transportation and facilities, and stray dogs. Lack of motivation, health problems, lack of enjoyment, and a perception of being too old were also noted, especially

among African American women, who also cited cultural barriers such as lack of role models and desire for independence. Motivators of activity included potential health benefits, enjoyable activities (noted more often by White women), recommendation from a health care provider, better transportation, low cost or free options, and education or demonstrations of safe activities.

As a follow up to the Keller, Robinson, and Pickens (2004) walking intervention described earlier, in which 12 of the 29 enrolled participants dropped out of the program, Dunn (2008) conducted focus groups with 14 intervention participants to explore barriers and facilitators of adherence to a walking regimen. Women who stopped walking prior to the end of the 9-month intervention noted being initially motivated by recognition of the need for activity or expectations for social interaction with other participants. They attributed their inability to continue walking to multiple barriers, including family demands, lack of routine and a regular time to walk, and health problems. Several of the women used spiritual references when describing their experience and indicated that supernatural forces (e.g., the devil) prevented them from fulfilling their commitment to walk.

In contrast, women who completed the intervention noted prioritizing walking. Though they also had families, work, and other responsibilities, these women consciously decided to devote time for themselves for walking. They reported experiencing numerous benefits from walking, including improvements in physical appearance, reduced worry and stress, and inspiration to improve other health behaviors such as their cooking style. Such changes reportedly enabled them to take better care of their families. These women also described a spiritual component to walking, noting that the activity provided them with an opportunity to meditate, pray, and draw closer to God.

Physically Active Older Women

Though the majority of older African American women are inactive, it is important to recognize that 28.8 percent of African American women aged 45-64 and 18.9 percent of those over age 65 *are* estimated to achieve recommended levels of physical activity (Whitt-Glover, Taylor, Heath, & Macera, 2007). Yet the experiences of these women are notably absent from the research literature. Most studies on physical activity have not focused on older African American women, and of those that have addressed this population, the majority have included samples comprised of sedentary women.

One published study specifically targeted active older African American women for its sample. Young and colleagues (2001) conducted four focus groups with African American women over age 40 to help guide the development of two planned interventions – one emphasizing physical activity and the other for weight loss. The physical activity focus groups were comprised of separate groups, each with 11 women, who were characterized as physically active (defined by reported current engagement in exercise twice a week for 30 minutes per session) or sedentary (defined as no exercise engagement). Participants were asked to describe their experiences with physical activity and were encouraged to discuss motivations to begin and maintain physical activity as well as the role of others in their efforts to be active.

The active women commonly noted that health concerns motivated them to become active. Additional motivators included weight gain, recommendations from health providers and relatives, and recognition of the need to take control of one's health. Specific circumstances (e.g., clothes no longer fitting, hospitalization, and other stressful events) often served as a catalyst for these women to become active. Among the sedentary group, some women could not identify any motivating factors. Those who could commonly mentioned greater social support,

in the form of group activities or fitness partners, as potential motivators to start being active. They also cited enjoyment of particular activities or their activity companions as motivating.

Social support was noted as a contributor to maintenance of physical activity among the active women. The women reported that having an exercise buddy and receiving encouraging phone calls helped them to continue their activity patterns. Observing changes in weight, or having others recognize and comment on such changes, was also helpful. In addition, having increased energy and feeling good motivated the women to continue exercising. Sedentary women who had previously been active also expressed the latter themes; however, they noted that time, health concerns, job and schedule changes, and having a child prevented them from continuing to be active.

Theoretical Frameworks for Physical Activity Behavior Change

A number of theories and theoretical models have been used to explain health behavior change related to physical activity. These include learning theories, social cognitive theory, the health belief model, the transtheoretical model, relapse prevention models, the theory of reasoned action, the theory of planned behavior, social support models, and ecological perspectives (HHS, 1996). Among the physical activity intervention studies cited above, only two specified any theoretical approach. Matteson (1989) reportedly applied a cognitive behavioral modification approach, which included goal setting, behavioral contracts, self-control techniques for behavior modification, and external positive reinforcement. Participants were assigned to one of three groups in which they received positive reinforcement in the form of praise, encouragement, and support from the investigator on a weekly (Group 1) or monthly basis (Group 2), or not at all (Group 3). There was no significant difference in activity between groups, but overall – as noted previously – participants reported increased weekly activity

compared to baseline, which Matteson noted as consistent with individual goals established in the initial behavioral contracts.

The intervention conducted by Agurs-Collins and colleagues (1997) was reportedly based on social action theory and principles of relapse prevention. In keeping with the community empowerment emphasis of social action theory, program materials reflected images, language, and values viewed as relevant among an older, African American community. To further foster a sense of identity and ownership, participants were encouraged to create a name for their intervention group; involvement of significant others in class activities was also encouraged. Relapse prevention techniques were discussed during group meetings to facilitate maintenance of dietary and activity changes. As previously noted, participants' activity levels had increased at three months, but were not significantly different from baseline levels by six months. Though the Matteson (1989) and Agurs-Collins et al. (1997) studies demonstrated some positive results, their effects were short-term and the extent to which the applied theories actually influenced the results is unclear.

In their investigation of correlates of physical activity among older, rural African American and White women, Wilcox and colleagues (2003) noted that their choice of measures was guided by social cognitive theory. As noted above, the researchers examined several demographic, environmental, and psychosocial factors, including self-efficacy, which Bandura (2004) has described as the focal determinant of health behavior change within the social cognitive framework. Though there was a significant bivariate correlation between self-efficacy and reported physical activity, an independent association of self-efficacy with physical activity was not demonstrated in hierarchical regression analyses adjusted for other factors. The researchers proposed that this finding may have been due to the effect of age, as this variable was

the most strongly associated with physical activity and was also significantly negatively correlated with self-efficacy.

Of the various theoretical approaches to physical activity behavior change, three have been noted as the most widely supported: the theory of planned behavior, self-efficacy theory, and the transtheoretical model (Biddel and Nigg, 2000). The theory of planned behavior is an extension of the theory of reasoned action, which proposed that one's engagement in a particular behavior is driven by one's intentions to perform that behavior (Fishbein & Ajzen, 1975). These intentions were said to be guided by the individual's attitude about the behavior and the influence of subjective social norms regarding the behavior. The concept of perceived behavioral control was added to the subsequently renamed theory to reflect the importance of an individual's perception of control over the opportunities, resources, and skills needed to perform a given behavior (HHS, 1996). According to the theory of planned behavior, behavior performance is a function of intentions as well as perceived behavioral control. In general, strong intentions and accurate perceptions of control predict successful attempts at behavior, though variation in these factors accounts for variability in actual behavior performance (Ajzen, 1991).

Within the physical activity literature, studies exploring the theory of planned behavior have not targeted African American women at any age. However, previous research has demonstrated correlations between constructs of the theory and physical activity among middle-aged and older women in Canada, Israel, and the United States. Vallance, Murray, Johnson, and Elavsky (2011) found that attitudes, subjective norms, and perceived behavioral control were significant predictors of intentions to engage in physical activity among a sample of postmenopausal Canadian women. Women who reported weekly engagement in 150 minutes of

moderate activity or 60 minutes of vigorous activity reported significantly higher scores on attitude, norms, perceived behavioral control, and intentions compared with less active women. Similarly, a study of Israeli women, ranging from 45 to 65 years of age, indicated that women who engaged in leisure time physical activity reported more positive attitudes and beliefs toward physical activity engagement, higher perceived behavioral control, and greater commitment to subjective norms compared with women who did not participate in leisure time physical activity (Rotem, Epstein, & Ehrenfeld, 2009). Among a sample of 225 American women of unspecified race, aged 65 years and older, Conn, Tripp-Reimer, and Maas (2003) found that women reporting higher normative beliefs and more favorable beliefs about exercise were more likely to express intentions to exercise, while women who reported less perceived behavioral control were less likely to report exercise intentions. Behavioral beliefs about exercise (defined in the study as the perceived positive and negative consequences of exercise) and perceived control beliefs were significant predictors of self-reported exercise.

The idea of perceived behavioral control in the theory of planned behavior was largely based upon Bandura's (1977) research on self-efficacy (Ajzen, 1991). According to Bandura's self-efficacy theory, behavior is driven by self-efficacy – that is, one's belief in his/her ability to perform a particular behavior – as well as outcome expectancies regarding the consequences of performing the behavior. Self-efficacy theory was later expanded and reconceptualized as social cognitive theory, which incorporates additional behavioral determinants such as knowledge, goals, facilitators, and impediments to behavior contributed by the individual and his/her social environment (Bandura, 2004). Self-efficacy remains a central component of social cognitive theory.

Though the research base specific to midlife and older African American women is sparse, this population has received more attention in studies on self-efficacy or social cognitive theory and physical activity. As previously described, Wilcox et. al (2003) investigated associations between physical activity and various constructs of social cognitive theory, including self-efficacy, and found that self-efficacy was not a significant independent predictor of physical activity among the sample of older African American and White women. In a later study, Martin and colleagues (2008) examined correlates of physical activity related to three types of self-efficacy among 61 African American women, aged 40-65 years, who were not regularly active. Women with high levels of self-efficacy related to their ability to overcome barriers to physical activity were less likely to report that worries about physical activity prevented them from being active. These women were also more likely to consider how their activity level might affect or influence others in their environment. Women who reported low levels of self-efficacy regarding their ability to make time for exercise were more likely to report that the aversiveness of physically activity interfered with their ability to be more active.

The transtheoretical model conceptualizes behavior change as a multi-stage continuum reflecting an individual's readiness for change. In general, individuals progress – or regress – through the change process at varying rates and through five basic stages: (1) pre-contemplation, before thinking about the possibility of change, (2) contemplation, when considering change, (3) preparation, or determination to change, (4) action, in which efforts to change are implemented, and (5) maintenance, as behavioral changes continue (Prochaska, Di Clemente, & Norcross, 1992). When applied to physical activity and exercise behavior, the transtheoretical model also incorporates the concepts of decisional balance (i.e., pros and cons of exercise), self-efficacy,

and the processes of change that encompass the strategies one uses to advance through the stages of change (Prochaska & Marcus, 1994).

Again, middle-aged and older African American women have not been the focus of physical activity studies using the transtheoretical model; however, the model was incorporated into one study targeting young African American women and another that included older African American women within a larger sample. Juniper, Oman, Hamm, and Kerby (2004) explored differences in female African American college students' self-efficacy and perceptions about physical activity based on their stage of change. Participants in the pre-contemplation and contemplation stages reported significantly higher perceived barriers and significantly lower self-efficacy compared with participants in the preparation, action, and maintenance stages. Participants in the pre-contemplation and contemplation stages also reported significantly lower levels of perceived severity than participants in the action and maintenance stages, as well as significantly lower perceived cues to action compared to those in the action stage. Physical activity behaviors were not assessed.

Principles of the transtheoretical model were also applied in a six-month telephone counseling intervention designed to promote physical activity among a sample of 150 sedentary African American and White men and women (72% women, 47% African American; Pinto et al., 2002). The intervention (known as TLC-PA) consisted of participant-initiated calls to an automated telephone system that provided physical activity messages tailored to the caller's reported activity and stage of change. A comparison group (known as TLC-Eat) received messages related to nutrition. At three months, in comparison to the TLC-Eat group, the TLC-PA group demonstrated significantly higher energy expenditure through moderate activity, higher rates of achieving federally recommended physical activity levels, and a higher

percentage of participants moving from contemplation to action. These effects were not maintained at six months.

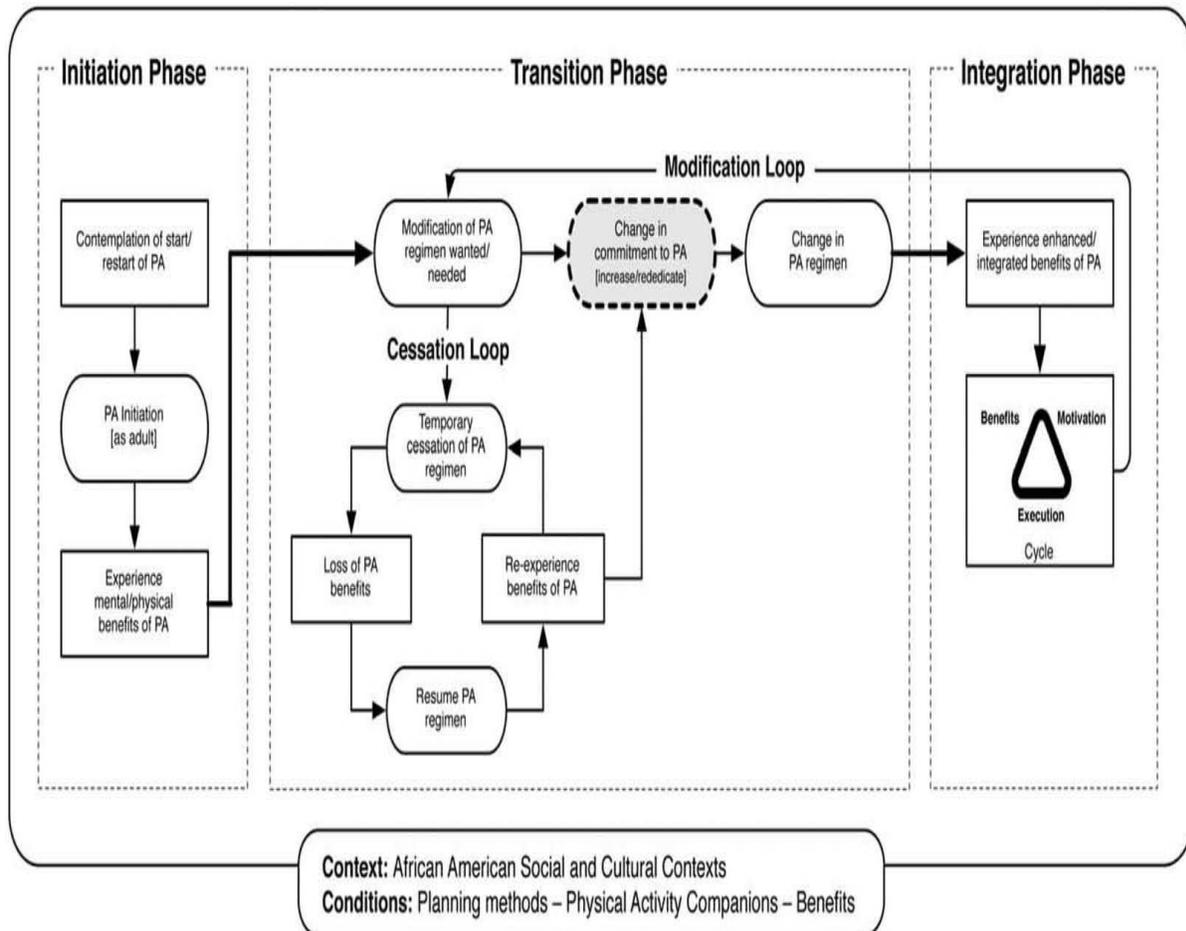
The Physical Activity Evolution Model

Bandura (2004) has argued that theories of health behavior change overpredict the resistance of health habits to change because such theories develop through study of refractory, rather than successful, cases. There is marked evidence to support this premise when one examines the literature on physical activity and African American women, as women who have experienced success in adopting and maintaining physical activity are vastly underrepresented. However, Harley (2005; Harley et al., 2009) recruited physically active African American women and used a grounded theory approach to develop a theory of the process through which these women adopted and maintained physical activity. Participants in the study included 15 African American women, 25-45 years of age, who reported engagement in then-current nationally recommend levels of physical activity (150 minutes of moderate activity per week or 60 minutes of vigorous activity per week) for one year or more, and who expressed a commitment to physical activity – as assessed with an adapted Commitment to Physical Activity Scale. Individual face-to-face interviews were held with each participant, and data from these interviews was analyzed using qualitative grounded theory techniques. These analyses resulted in the development of the Physical Activity Evolution model, shown in Figure 1.

According to the Physical Activity Evolution model, the process of becoming physically active is characterized by three phases. During the initiation phase, the women decide to start a physical activity program, learn which activities are personally enjoyable, fit into their schedules, or meet specific needs, and they begin to experience early benefits of activity. During the transition phase, the women restructure their activities to better fit their lifestyles and maintain

desired benefits. Recognition of the need or desire to commit to physical activity may also occur. During the integration phase, the women begin to experience enhanced benefits of activity and motivation to continue is reinforced. This phase is followed by a cycle of consistent activity, at which point successful integration of physical activity has occurred. Throughout this process, a woman may experience periods in which she must again modify her activity and routine, and she may also cease to be active for a time. These periods are reflected in the model as the Modification Loop and the Cessation Loop. Temporary cessation of regular physical activity, and the accompanying opportunity to learn to navigate interruptions in one’s activity, was found to be a normal and potentially helpful part of integrating physical activity into life.

Figure 1 – Physical Activity Evolution Model (Harley et al., 2009)



The process of becoming physically active, as depicted in the model, takes place within the social and cultural context of life as an African American woman. For study participants, the importance of this context was noted most often in discussion of hair type as a challenge to being active, an observed lack of African American role models for physical activity, and cultural expectations about the role of African American women which made it difficult to balance physical activity with other responsibilities. Additional issues included the impact of slavery and oppression on African Americans' weight and health habits, as well as concerns about misconceptions regarding the need for or effects of physical activity based on cultural views of acceptable body type.

Harley and colleagues identified three conditions as essential to participants' movement from inactivity to regular engagement in physical activity: strategies for planning and scheduling activity, activity companions, and observed benefits of activity. Planning methods were noted as the most integral feature of movement through the process of physical activity development (Harley et al., 2009). All women in the study used some means of actively planning for activity. They expected and prepared for obstacles. Flexibility was a key feature of their plans, which allowed for substitute activities, alternate times for activity, make-up days for missed activity, and scheduled down time. Scheduling activity also served as a means of balancing physical activity with other roles.

Physical activity companions were noted to serve important motivational, instrumental, facilitative, and social functions (Harley et al., 2009). Motivational companions offered encouragement, accountability, and role modeling through formal relationships (such as with fitness instructors or trainers) or informal relationships (as with friends and exercise partners). Formal companions also provided a structured physical activity environment, which helped the

women adhere to their established physical activity regimens. Activity participation with informal companions helped the women maintain interest and also motivated them through working toward a common purpose and achieving goals with others. Women who lacked motivational companions within their social networks often sought such support virtually, through trainers and exercise participants on videos and DVDs.

Social companions included existing members of the women's social networks as well as individuals with whom new social ties were developed through engagement in physical activity. In addition to producing feelings of enjoyment, engagement in physical activity with other people in their social network helped the study participants to blend physical activity with socializing and other pursuits, which helped integrate physical activity into their daily lives. Development of friendships and other new relationships through physical activity served to further enhance the women's experiences. The roles of facilitative and instrumental companions were noted to be more focused and limited in scope. Facilitative companions exposed participants to new physical activity options and opportunities, while instrumental companions primarily assisted in skill building by teaching participants particular techniques.

Finally, women's recognition of benefits influenced them in varying ways throughout the process of physical activity development. Initially, the women's knowledge of the potential benefits of physical activity – such as weight reduction and control and reduced risk of cardiovascular risk factors – was a primary motivator to adopt physical activity. As the women initiated activity, they began to experience other, often unanticipated, benefits more rapidly – including improved sleep, stress management, and more energy – which prompted them to continue activity. At times, as represented in the Physical Activity Evolution model's Modification Loop, modification of the chosen activity might become necessary in order to fit

the expected or desired benefits. Movement into the last stage depicted in the process model, the Benefits-Motivation-Execution cycle, was fostered by achievement of desired physical, mental/psychological, and social benefits. Upon reaching this point in the process, motivation for continuing physical activity was reinforced, as the women desired to maintain the changes they had achieved (Harley et al., 2009). It is important to note that the Benefits-Motivation-Execution cycle does not indicate an *end* to the process of becoming and remaining physically active. Because changes in life are inevitable, it is possible that modifications to activity or temporary cessation of activity will occur. This was a common experience for women in the Harley et al. (2009) study, who indicated that a loss of desired benefits often prompted their return to the main flow of the process and renewed their efforts to integrate physical activity into their lives.

Acknowledged limitations of the Harley et al. study include small sample size, possible selection bias, and – given the emergent nature of findings in grounded theory inquiry – the possibility that a different investigator may have obtained different results. However, the study did include measures (e.g., peer debriefing and member checking) recommended to enhance the credibility, dependability, and confirmability of qualitative studies (Harley et al., 2009). Because the study was not designed to describe the experiences of individuals or groups other than the women included in the study sample, additional studies are needed to examine the applicability of the Physical Activity Evolution model to other groups.

Comparison of the Physical Activity Evolution Model with Previously Supported Theory

Though Harley utilized a grounded theory approach, which resulted in the development of a new theoretical model, the resulting Physical Activity Evolution framework – and the interview data from which it was created – reflected some concepts associated with existing

theories. For example, the social norm component of the theory of planned behavior was reflected in some of the original study participants' discussion of the conflict between their physical activity beliefs and behaviors and the expectations of their families and communities. The importance of social support, a component of social cognitive theory, was demonstrated in the previous study as many women described support from physical activity companions as a key feature of their experiences. Self-efficacy was not directly assessed in that study, but Harley noted that some women interviewed did mention how their confidence in performing certain activities increased or how they positioned themselves in the rear of group fitness sessions and observed until they gained enough confidence in their skills to move forward.

The Physical Activity Evolution model most closely parallels the transtheoretical model. Both models focus on the process of change and identify factors that facilitate movement through the change process. Both conceptualize change in physical activity behavior as occurring in stages and recognize the possibility of recycling through the various stages. Additionally, Harley noted that the experiences described by women in her study mirrored many of the processes of change outlined by Prochaska and colleagues (1992) that account for movement from one stage to another. For instance, the concept of consciousness raising (i.e., increasing awareness about oneself and the chosen behavior) was exhibited in participants' reported efforts to learn more about physical activity and their personal health risks.

The Physical Activity Evolution model is distinct from the transtheoretical model in that it does not reflect all processes of change and other elements of the transtheoretical model. Moreover, it is specific to the development of physical activity among young African American women, whereas the transtheoretical model is applied more broadly and has seldom been used in research on physical activity among African American women. Despite its similarities to the

transtheoretical model, the Physical Activity Evolution model merits further research into its applications as a novel approach for understanding the process through which African American women become and remain physically active.

Purpose of the Study

It is clear from available research that older African American women face substantial barriers to physical activity and, as a group, represent a generally inactive population. What is less clear is how older African American women who are regularly physically active have been able to successfully adopt and maintain activity involvement. Exploration of these women's experiences will serve to address a void in the existing research literature and inform the development of future interventions to promote increased activity among older African American women who remain sedentary. This dissertation study aimed to extend the existing research literature by exploring the process through which physically active midlife and older African American women incorporate regular physical activity into their lives and the factors that influence their adoption and maintenance of regular physical activity.

The study was guided by the following general research questions:

- Through what process do middle-aged and older African American women become regularly physically active?
- What factors are associated with middle-aged and older African American women's successful integration of regular physical activity into their lives?

Though the process of physical activity adoption and maintenance has not been examined in older African American women, Harley's Physical Activity Evolution model provides a potential framework for understanding this process. This study evaluated the applicability of the

Physical Activity Evolution model to the experiences of older African American women. Given a lack of existing data to indicate otherwise, it was expected that the process by which midlife and older African American women adopt and maintain regular physical activity would mirror the stage-based process through which younger women integrate physical activity into their lives, as demonstrated in the Physical Activity Evolution model. That is, the experiences of women participating in this study would reflect progression through the stages identified in the model. However, given the variation in context experienced by older women (i.e., older age), it was hypothesized that the conditions that successfully move middle-aged and older African American women through the process of physical activity integration would differ from those noted for their younger counterparts, specifically with regard to social support and health status.

For example, though social support from activity companions was a key factor in facilitating physical activity engagement among the participants in the Harley (2005) study, previous research by Wilcox et al. (2003) found that social support was not associated with physical activity among a sample including African American women aged 50 years and older. Thrasher, Campbell, and Oates (2004) found that emotional support, but not informational or instrumental support, was associated with physical activity among a predominantly female sample of African American adults with an average age of 50 years. Yet, among a sample of African American women aged 40 years and older, Young and colleagues (2001) found that having a companion for exercise helped participants remain active. These findings suggest that the role of social support, at least in some forms, may become less significant or less salient with age among African American women. Based on these results, it was hypothesized that the role of physical activity companions would be less influential among participants in the proposed study. In addition, given the tendency of older women to report issues of health as a barrier or facilitator

of activity with greater frequency than younger women (Carter-Nolan, Adams-Campbell, & Williams, 1996; Wilcox et al., 2003; Wilcox et al., 2005; Young et al., 2001), it was expected that health issues would be of greater importance to women in the present study.

CHAPTER 2

METHODOLOGY

Study Design

Given the dearth of information available on older African American women's experiences of becoming physically active, a methodological approach was desired that would allow for a detailed exploration of this process and associated factors. The research questions guiding this study were well suited to qualitative inquiry, as this approach stresses an understanding of how experiences are created and emphasizes rich descriptions of these experiences, embedded within the constraints and context of study participants' everyday lives (Denzin & Lincoln, 2000). Qualitative studies have commonly been defined by their reliance on inductive reasoning, whereby data are used to generate ideas or hypotheses (Thorne, 2000). Researchers work "from the bottom up", allowing findings to emerge from patterns and themes observed in the data, typically without regard to a pre-specified theoretical framework. However, qualitative research can also be used in a deductive manner to test or expand upon an existing theoretical conceptualization (Miles & Huberman, 1994). Using this approach, researchers "work down" from a theory, examining the data in search of evidence that supports or disconfirms the theory. In keeping with this approach, data collected for this study were examined using deductive qualitative data analysis techniques to evaluate the applicability of the Physical Activity Evolution framework to the lives of midlife and older African American women.

Regarding the reproducibility of qualitative findings, Strauss and Corbin (1990) have noted that use of a shared theoretical perspective, application of the same general rules for data collection and analysis, and a similar set of conditions should allow one investigator to produce the same theoretical explanation of a given phenomenon that has been advanced by a previous researcher. To facilitate reproducibility of the Physical Activity Evolution model and identification of potential discrepancies from that framework, this study utilized features of the Harley (2005) design, including a semi-structured interview guide and assessment of participant commitment to physical activity, as described in greater detail below.

Participants

Participants included physically active, community-dwelling women who self-identified as African American and were 45 years of age or older at the time of study enrollment. The minimum age for inclusion in the study was established to capture the experiences of both midlife and older women, extending beyond the focus on young adult women and those entering middle age that were targeted by Harley (2005). Participants were recruited from Tuscaloosa and Jefferson counties in Alabama through flyers, public announcement, and word of mouth. Sites and groups targeted for recruitment included community centers, academic institutions, sororities, gyms, and other recreation/fitness facilities. Participants were also asked to recommend others they knew who might fit the study criteria.

Data Collection and Measures

Cognitive Status. Because cognitive difficulties could preclude successful participation in the study interviews, cognitive impairment – as indicated by a score of less than 8 on the Short Portable Mental Status Questionnaire (SPMSQ; Pfeffer, 1975) – was included as an exclusion criterion. The SPMSQ is a brief 10-item instrument designed to quickly test for gross cognitive

impairment among older individuals. The SPMSQ has demonstrated good test-retest reliability ($r = .83$), as well as sensitivity (92%) and specificity (82%) in discriminating between patients with and without clinically diagnosed cognitive impairment (Pfeiffer, 1975). Administration via telephone has been found to correlate well with face-to-face administration ($r = .83$), and has demonstrated reasonably good sensitivity (74%) and specificity (79%) in discriminating between patients with and without dementia using a cut-off score of 7 or fewer correct answers (Roccaforte, Burke, Bayer, & Wengel, 1994). A copy of this measure is included as Appendix A.

Physical Activity Level. Participants were identified as physically active based on their reported adherence to the federal government's current recommendations for physical activity, as assessed by responses to questions used to evaluate physical activity participation through the Behavioral Risk Factor Surveillance System (BRFSS), a state-based, telephone health survey system (CDC, 2009). Biannually, since 2001, BRFSS has included items about physical activity participation which ask respondents to indicate whether, in a usual week, when not working, they engage in moderate or vigorous aerobic activities, the number of days each week they spend engaged in these activities, and the amount of time spent on such activities each day (CDC, 2009). Reliability studies of the BRFSS physical activity items have demonstrated moderate reliability for African American women's responses to these items (Brownson et al., 1999). The number of minutes per week engaged in activity was used to identify physically active participants. Average weekly participation in 75 minutes of vigorous intensity activity, 150 minutes of moderate intensity activity, or an equivalent combination was required for inclusion in the study. Though the current federal activity guidelines also recommend muscle-strengthening exercise on two or more days per week (HHS, 2008), this study focused on the

primary recommendation for moderate-to-vigorous aerobic activity due to the low rates of adherence to this basic recommendation.

Maintenance of regular activity was also required for inclusion in the study. There is currently no official criterion for physical activity maintenance; however, research studies have typically operationalized maintenance as participation in regular physical activity for at least six months following an intervention or after adopting or increasing physical activity on one's own (Marcus et al., 2000). Consistent with this precedent, eligible participants had to report engagement in physical activity at the aforementioned levels for a period of six months or more at the time of study enrollment.

Commitment to Physical Activity. To ensure that prospective participants chose to engage in physical activity, rather than inadvertently achieving recommended activity levels solely through occupational tasks or other sources, the adapted Commitment to Physical Activity Scale (CPAS; Corbin, Nielsen, Bordsdorf, & Laurie, 1987) was administered. This 11-item measure includes items addressing respondents' dedication to become and to stay involved in regular physical activity. Test-retest and split halves reliability values have demonstrated good internal consistency (Cronbach's $\alpha = 0.88$; DeBate, Huberty, & Pettee, 2009). A copy of this measure is included as Appendix B.

Demographic Data. Age, race, education, occupational status, income range, and subjective income were collected via a self-report questionnaire. Participants were asked to note their age and race and to then indicate their level of educational attainment, occupation, and income from a list of provided options. Education levels included less than high school, high school graduate, completed some college, college graduate, and completed graduate or professional school. Occupational options included employed, unemployed, retired, and disabled.

Eight options were included for patients to indicate their annual household income, ranging from “less than \$10,000” to “\$75,000 or more.” Finally, participants were asked to report whether they felt their income was “not enough to make ends meet,” “just enough to get by on,” allowed them to be “comfortable, but permits no luxuries,” or allowed them to “do more or less what [they] want.”

Interviews. The primary data of interest was gathered from participant responses during individual in-depth interviews. Because this study aimed to test the Physical Activity Evolution model, an adaptation of the interview guide developed by Harley (2005) was used to solicit comparably detailed narratives from participants in this study. A copy of this interview guide is attached as Appendix C.

Procedures

Posters containing a brief description of the study, eligibility criteria, and investigator contact information were printed and distributed to various community locations in Tuscaloosa, AL. Posters were also provided to individual contacts in Birmingham, AL for distribution there. In addition, recruitment presentations were made to a local sorority graduate chapter and several local senior fitnesses classes. Prospective participants were advised to call the investigator if interested in participating in the study. Eligibility screening was subsequently conducted by telephone. The screening procedure included confirmation of age and race, followed by administration of the BRFSS survey items, the SPMSQ, and the CPAS.

A one-on-one interview was then scheduled with each eligible participant to take place in her home, at the investigator’s office, or the local public library. Approval for this study was granted by the University of Alabama Institutional Review Board (IRB). In accordance with IRB regulations, an informed consent form was reviewed and signed by each participant prior to

the individual interview. Upon completion of each interview, which lasted approximately 60 minutes, the participant was thanked for her time and given \$15 as remuneration for her participation in the study.

After data collection and preliminary analyses were completed, participants were invited to join the investigator and fellow participants in a focus group, held at the local public library, to hear and comment on the study findings with the goal of ensuring that the findings reflected the women's reported experiences. A graphical depiction of the Physical Activity Evolution model was presented and explained to participants, along with differences suggested by the study analyses. Participants were asked the following questions, adapted from Harley (2005):

- How does this process seem to fit with your personal experience with physical activity?
- How does it differ?
- Did you move through the process in a different sequence than what is presented?
- Which steps were most crucial to moving through the process?
- If you could change something about this diagram [i.e., the displayed theoretical model] to better fit your experience, what would it be?

Participants were given an additional \$15 for their participation in the focus group.

Data Analysis

Digital recordings of each interview were transcribed by the investigator and then coded and analyzed for thematic content in accordance with techniques outlined by Miles and Huberman (1994). Consistent with a deductive approach to qualitative analysis, the use of an a priori codebook is recommended to guide analyses designed to test an existing hypothesis or theoretical framework (Crabtree & Miller, 1992). Because this study aimed to evaluate the Physical Activity Evolution framework, interview data were reviewed and coded using a

codebook provided by Dr. Amy Harley and containing elements identified as defining features of the Physical Activity Evolution process model. ATLAS.ti data management software was used to organize the data. Interview transcripts were entered into this program and a sentence-level review of each transcript was conducted, during which segments of the interview that were representative of the a priori codes were identified and labeled accordingly. New codes were applied to segments of the interview data that illustrated new themes or reflected an expansion of the previously identified themes. This process was repeated for each interview transcript, and inductively-derived codes were revised as indicated as new information was obtained through subsequent interviews. After completion of all coding, the codes were queried in ATLAS.ti to identify illustrative quotations. These quotations were carefully reviewed and assessed for consistency or discrepancy from features of the Physical Activity Evolution model.

Miles and Huberman (1994) recommend the use of visual displays to help organize identified patterns and develop and verify descriptive conclusions about the phenomena being studied. Consistent with this recommendation, a tabular matrix was created to chronicle the first participant's reported progression from physical activity adoption through integration based on data shared in her interview. Information from each subsequent participant was added to this display, allowing for cross-case analysis and confirmation of sequential progression through the model.

To help ensure credibility of the analysis process and resultant findings, three strategies were applied: check-coding, peer debriefing, and member checking. Miles and Huberman (1994) recommend that the principal investigator check-code the first interview transcript by repeating the coding process right after the initial review and coding, and again approximately one week later. The demonstrated code-recode reliability (that is, the number of coding

agreements out of the total number of agreements and disagreements) was to be 90 percent or greater before conducting subsequent analyses. This process was undertaken as recommended and a code-recode reliability of 92.6 percent was noted after the third coding trial. For peer debriefing, segments of the coded data were presented to Dr. Martha Crowther, the dissertation committee chair, for review. Finally, given this project's focus on elucidating the experiences of physically active African American women, it was vital that participating representatives of this group be given the opportunity to review and comment on the results of this study. This was done through the focus group procedures outlined above, which comprise a process known as member checking, in which study results are presented to participants in order to confirm the representativeness of the findings (Lincoln & Guba, 1985).

CHAPTER 3

RESULTS

Recruitment and Sampling

Fifteen active, African American women were enrolled in the study from March to August 2012. The women reported learning about the study through flyers posted at the University of Alabama Recreation Center, the Downtown Tuscaloosa YMCA, Curves, and the Tuscaloosa Health Department, as well as through presentations made at two Shelton State Community College adult fitness classes and through word of mouth from relatives, friends, and acquaintances. Though several women expressed interest in the study during other recruitment presentations (e.g., at a Zeta Phi Beta sorority chapter meeting and to senior fitness classes at the McDonald Hughes Community Center and FOCUS on Senior Citizens), most did not meet eligibility criteria and self-selected out of screening. Eighteen women expressed interest in being screened for the study – two from Birmingham, AL (Jefferson County), one from Moundville, AL (Tuscaloosa County), and 15 from Tuscaloosa, AL (Tuscaloosa County). One woman did not meet eligibility criteria because she had been active for fewer than six months at the time of screening, though she reported activity engagement for longer periods in the past. Two others were eligible, but were not interviewed due to repeated scheduling conflicts.

Though no specific sample size was defined at the start of this study, it was expected that approximately 15 participants would be needed, based upon the sample sizes of previous related qualitative studies (Harley, 2005; Wilcox et al., 2005; Young et al., 2001) and an expectation that informational redundancy would be achieved with a sample of this size. Because no

substantially different information was being obtained by the fifteenth interview, recruitment and interviewing were suspended at that point.

Participant Characteristics

The study sample was comprised of 15 women, ranging from 45 to 66 years of age. All had completed at least some college; seven were college graduates and two held graduate degrees. One was a student, three were retired, and 11 were employed. Of those employed, five worked as health professionals. One participant was a medical technologist, two others were clinical practice nurses, another was employed in nursing administration, and one woman had transitioned from a career in nursing to open her own business as a personal fitness instructor. With regard to income, one participant felt that her income provided “just enough to get by,” while the others indicated greater comfort with their income levels. Participants reported involvement in dedicated physical activity for varying lengths of time (6 months up to several decades) and through diverse activities. Details of participant demographic characteristics are reported in Table 1. Descriptions of participants’ current activities and duration of time active at their current level are listed in Table 2.

Table 1. Participant Demographic Characteristics

<u>Age</u>	<u>Education</u>	<u>Employment</u>	<u>Numerical Income</u>	<u>Subjective Income</u>
49	Graduate/Professional School	Student	\$25,000-\$35,000	do more or less what I want
47	College Graduate	Employed	Over \$75,000	do more or less what I want
48	College Graduate	Employed	\$35,000-\$50,000	do more or less what I want
45	Completed Some College	Employed	\$25,000-\$35,000	keeps comfortable; no luxuries
48	College Graduate	Employed	\$50,000-\$75,000	do more or less what I want
55	Completed Some College	Employed	Not reported	gives just enough to get by
46	College Graduate	Employed	\$50,000-\$75,000	keeps comfortable; no luxuries
48	College Graduate	Employed	\$50,000-\$75,000	keeps comfortable; no luxuries
63	Graduate/Professional School	Employed	Not reported	keeps comfortable; no luxuries
66	Completed Some College	Retired	\$25,000-\$35,000	keeps comfortable; no luxuries
66	College Graduate	Retired	\$25,000-\$35,000	do more or less what I want
46	College Graduate	Employed	Over \$75K	do more or less what I want
59	Completed Some College	Retired	\$50,000-\$75,000	do more or less what I want
55	Completed Some College	Employed	\$25,000-\$35,000	keeps comfortable; no luxuries
59	Completed Some College	Employed	\$50,000-\$75,000	do more or less what I want

Table 2. Participant Activities and Duration

<u>Participant</u>	<u>Activities</u>	<u>Duration at Current Level</u>
1	walking, cardio equipment	lifetime
2	yoga, Pilates, Zumba	3 years
3	walking, horseback riding	6 months
4	walking, strength training	1 year
5	Zumba, walking, strength training equipment	11 years
6	Curves, walking	1 year
7	walking, belly dance	6 months
8	Spin, group fitness classes, cardio equipment	15 years
9	bicycling, workout at gym	7 years
10	walking, aerobics	1 year
11	walking, dancing, jumping rope, DVDs	3-4 years
12	weight lifting, walking on treadmill, Pilates	16 years
13	aerobics, weight training, tai chi	6 years
14	aerobics, strength training	5 years
15	Zumba, walking on treadmill	5 years

Applicability of the Physical Activity Evolution Model

Within- and cross-case analyses of participant interviews revealed that, as hypothesized, the process by which middle-aged African American women initiate and maintain physical activity was consistent with the process depicted in the Physical Activity Evolution (PAE) model. However, this process was only applicable in full for women who first initiated physical activity as adults. Three participants reported ongoing, dedicated participation in physical activity since adolescence. Among them, one woman's interest in physical activity was piqued at age 16 or 17 in the early 1980s by the novelty of health clubs, which were previously nonexistent in her community. She remained active in a gym and through other outlets over subsequent decades. The other two women participated in high school athletics and continued to seek opportunities for physical activity from that point forward. These three participants indicated that their interest in physical activity was innate. They could not easily recall or describe how physical activity became integrated into their lives because they felt that it always had been. Though they were distinctly different from other participants in this regard, they did report experiencing aspects of the PAE model in common with the other participants. For example, they acknowledged temporarily suspending or reducing their physical activity for brief periods, and reinitiating and modifying it to meet certain needs. In addition, their recent and current experiences were comparable to the other participants, as all reported physically active lifestyles at the time of interview. For these reasons, though the three "naturally active" women could be considered outliers in one aspect, quoted examples of their experiences are included below where appropriate.

Initiation of Physical Activity

Nearly all of the participants reported being active to some extent during childhood or adolescence, often through play or participation in sports or extracurricular activities. Yet, for most, leisure-time physical activity ceased or substantially decreased – typically when they finished high school, married, or became mothers – until they decided as adults to initiate or reinstate dedicated physical activity. Several women mentioned health concerns as a catalyst for activity, although, contrary to expectations, this was not the most commonly reported reason for activity. For some participants, concern was prompted by a personal medical diagnosis. One woman turned to physical activity as an alternative to surgical intervention for her medical issues:

Okay...I have fibroids and...I'm not big on Western medicine. I'm Buddhist; I practice eastern philosophy. So instead of having them cut out of me like the Western method, I decided to chant a chant, Nam Myoho Renge Kyo, for me to understand the cause behind the effect that I was experiencing. So one of the things I came across was that this area [gesturing around abdomen] might be stagnant, and belly dance – in addition to increasing your body image...well, self-confidence...and developing your femininity, it also helps with stagnation in that area.

Others received medical advice to initiate activity after being diagnosed with certain conditions:

I think in '09 they had diagnosed me with being a diabetic, and that was like a blow for me, seriously, because I never had an illness, honestly. So this just took me for a loop. After I learned about it, they was like, "You know, if you exercise, change your diet, whatever, you can beat this thing." I actually started, actually going to the facility [a local fitness program].

Another participant noted,

Then I ended up having to do...had a little elevated high blood pressure and that's from not being active, always at a computer all day. I had to find something to do to get it down. I'm not about taking a lot of medicine. I started having to take a low dosage blood pressure pill and the doctor was saying that maybe you need to get a little bit more continuous exercise program.

Others were striving to avoid developing health conditions seen in relatives:

I look at my mother – she has diabetes; my aunts, all of them, they had it. When I look at that perspective and I hear people say that being overweight...you hear them talking about overweight is the cause of it. When I really got to thinking about it...Well, I had my blood work done. My doctor, he told me everything was good, but I got to get it to where it's going to be better than good, to where you can say, well your chances on getting this is slim to none; you won't get it, which I know diabetes is hereditary, too.

But I'm trying not to, and if I get it I didn't get it because I was overweight.

Concern about excess weight was the most frequently reported reason for activity initiation. One participant, who had gained weight after relocating, noted, "I had to say I was tired of the weight. When I got to that point, it was like, you going to get out there, you going to start walking; you are getting into some type of classes." Several women discussed becoming dissatisfied with their weight, particularly due to pounds that remained post-pregnancy or as their metabolism slowed with age. One woman described her experience after giving birth to her last child, the only girl out of seven children:

I just went right back to my size, right back to my size [following the first six pregnancies]. When I had a daughter I was so content with having a girl toward the end I

didn't really care about figure. I just didn't. I was just so happy and one day I looked in the mirror and I was like, "Oh no!" I've got to do something about this. Then my husband hurt my feelings. He was like, "You have put on weight" and I was like, "I sure did" to myself and I said, "Okay, I know what to do."

Another noted,

I was a cheerleader in high school, but when I got married ... After high school I wasn't that active so I think I became more physically active, I guess when I turned ... I had a break from high school until I turned about 35, so somewhere about 34 I went from a size 3-4 to a size 9-10. (Laughs) When that old age spread started kicking in I decided I need to get back into doing more.

While some women decided on their own to increase physical activity for weight management, others' activity was prompted by participation in organized weight loss programs, as was the case for this participant:

I got a chance to get in at Weight Watchers at work and the women were sitting around talking about it and the lady was telling us different exercises we could do and so I just started off just walking.

Another participant was driven by the possibility of a financial penalty from her employer for excess weight:

And also with the insurance now... You actually have to go and do this every year; it got to be where you have to pay more for your state benefits. If your BMI is a certain number, if you're overweight... [T]he first year I actually failed it and I had to go and see my doctor. She had to sign that paper and I had to bring it back so that my check was not cut that \$25 a month. So again, a little slap on the hand was another incentive that you

need to do that. I failed by one pound. That was an incentive that I need to get something done.

She subsequently joined an on-site wellness program sponsored by her employer, which provided weekly meetings and guidance for making changes in diet and physical activity. This same participant was employed as a health professional, and indicated that her interest in activity was also inspired by a desire to practice what she preached to her patients. She stated, “You’re talking and telling patients about it; then you’ve certainly got to look in the mirror and say ‘This also applies to me.’ I think that made me really want to get physical at that part.”

Regardless of the reason for starting activity, all of the women began by walking, either inside on a treadmill or track or outdoors in a park or their neighborhood. They soon began to see benefits, including improved endurance and better sleep, as well as weight loss and related changes (e.g., better fitting clothes), which increased their desire and initial confidence to continue activity. One woman experienced weight loss within one month of initiating activity and stated, “It made me want to continue to do it. Made me motivated, energized that I can do this. I continue to do it.” Recognition of these early benefits was sometimes surprising and profound, as reflected in the experience of one participant who had struggled with her weight since childhood:

I was able to lose some weight and was able to do other things and something as simple as going to a store and finding something that fits; you look good in it. You look...wow! It just opens up a whole world. It just makes you feel like it’s limitless what you can do. You conquer that thing that was always there. You thought, “Oh, gosh, I’ll never get over this,” but you can do it.

Transition

As the women continued walking and participating in other activities they had initiated, they began to perceive a need for modification to better fit their preferences, enhance results, or facilitate attainment of specific fitness goals. As one participant noted, “I felt like I wasn't getting the exercise that I needed walking. It wasn't taking care of the necessities that I needed. I wasn't up to par to where I wanted to be.” Another stated,

It changed from just going to your standard working out with weights, treadmills, things of that nature, things that I hated. Walking...I hate those, but then I got into the elliptical and that was better for me. Then I started with doing other stuff like aerobics, and anything with music or something was a better fit for me, so it evolved from walking, something that I really hated, to finding something that fit with my personality.

Modification was sometimes required to combat distraction or complacency:

I just joined a gym and started liking working with the equipment. After a while I said, “Well, I can do this at home.” I'd buy equipment, and not do anything with it, that kind of stuff. I realized through trial and error that I have to go to a gym, because if I'm at home there is always something that might stop me from doing my workout.

The women were cognizant of their ability levels as they sought new activity. One participant noted,

I wanted to do more besides walk because at this particular time I was just walking every morning. Then a friend of mine at work, she had the Zumba tape so she gave me a copy of it ... well, she gave it to me and let me copy it. That's how I got the Zumba and started doing Zumba at home. I'm not coordinated so I didn't want to go and take no classes outside and I be left behind.

Incorporating more appealing or effective activities into their physical activity regimen enabled the women to maintain the initial benefits they had obtained, and they began to recognize the importance of a personal, individual commitment to activity. Harley (2005) found that many of the women she interviewed described this recognition as “a breakthrough” or “light clicking on.” Participants in the current study did not indicate that such awareness occurred as abruptly for them, but did express a realization of the need for personal dedication to physical activity. One participant described her dawning commitment in this way:

I had finally made up in my mind... Well, you know how we'll say we're going to walk, but you call me and say, “Well, I ain't going to walk today, and I would be like, “Well, since she ain't going, I ain't going to go neither,” but I had to get it in my mind because you didn't go, it didn't mean that I couldn't go. When I made that up in my mind, that's when I just started going. Even after work, when we were going to Planet Fitness after work, they were like, “Well, I ain't going tonight.” I'm going to still go because it's like, well, they can't help me, *I got to do this for myself* [emphasis added].

When asked how she had come to that realization, she added,

Being overweight, just being tired of carrying the weight around, and I kept saying, “Well, such and such, if she don't go, so I ain't going to go,” and then finally I just said to myself, “[states name], if they don't do it, you still going to be stuck back here,” so I was like, “Because they don't go, don't mean you can't go.” When I made up my mind and convinced myself... I had to convince myself.

Another participant reflected on her dedication to physical activity by highlighting its necessity as a health behavior, despite her lack of passion for it:

I still think about getting to the end. (Laughs) I don't know anybody who just loves, loves, loves and enjoys it. I'm waiting on that person to tell they just love working out. (Laughs) They love doing it. I don't love doing it. But I know it is just like the smoking. I don't even think I loved smoking. I don't even know how I started smoking. I didn't love it. I hated it. It stinks. It's in your clothes. But it's just something that ... But until I left that, I didn't know. So no, I don't love, love exercising either, but I do it. I know it's one of those things that are necessary.

Integration

As the women continued their activities, they began to experience additional and enhanced benefits. Women who had experienced initial weight loss found that ongoing physical activity helped them continue to lose or maintain a desired weight – keeping “everything in check,” as one participant noted. Those whose activity was prompted by health concerns were able to demonstrate more consistent control of blood pressure and blood glucose levels. One participant, who had reported a previous diagnosis of diabetes, noted, “I beat it. I mean, I'm not diagnosed with it anymore. It [physical activity] works in my favor. It really did.” Participants often expected such benefits, though they took time to realize. Continuous physical activity resulted in unexpected benefits as well, such as new friendships and improved relationships with family and others. Many of the women expressed pleasure and surprise regarding the unanticipated benefits of physical activity on their functionality and comfort. For example, one participant shared,

This may not sound like a whole lot, but honestly since I've been doing activities, physical activities...I went to Florida last year. Because of the way...there was so much luggage in the back and the seats were...I laid in the back. Any other time I would have

been cramped up, but I was like, “Oh my God.” I jumped up and said, “My legs are not hurting, my legs...!” They were laughing and like, “Mommy what are you talking about?” I said, “Any other time I would have been cramped up back here.” I said “Wow!” I promise you I laid in a fetal position back there on the blanket that was back there and I went to sleep like a baby. It wasn’t cramped up, and I’m tall and I was not cramped up. I thought that was pretty good, I really did.

Participants reported numerous benefits of activity and noted that these benefits reinforced their motivation to continue participation in physical activities. The participant above clearly summarized this process when she noted simply, “It’s like, well okay, so it’s working, so we’ll keep this up.” At this point, the women entered what Harley (2005) termed the Benefits-Motivation-Execution cycle.

As they experienced this cycle of enhanced benefits and increased motivation through continued activity, the women began to consider physical activity engagement as an integral part of their lifestyles. This sense of integration was reflected in statements such as “It’s part of my life,” “It’s a habit,” and “It’s just what I do.” While most participants had become involved in physical activity as adults with one major goal in mind (typically to lose weight or address a specific health issue), by the integration phase, their focus had often shifted to a goal of simply continuing activity, taking care of themselves, and maintaining the additional benefits they had acquired. For example, one participant noted,

Sixty minutes ... if I can just do an hour. I look at it this way – Monday through Friday, if I can do an hour...I’m doing it for me. I’m doing it for me. I’m doing it for [states name]. This is something I’m doing for myself. Then when I go to the doctor and see my blood pressure’s 116/66, I’m like, “Yes!” I’m doing it for me. I’m doing it for me.

Though they still put forth much time and effort to remain active, the women noted that their physical activity regimens had become more pleasant and more easily incorporated into their day-to-day lives. Describing the routine nature of her regimen, the participant above remarked, “They’re just part of my daily activities – wake up, pray, meditate, go to gym, go to rec. It’s part of my life. It is actually part of my schedule; at least Monday through Friday, that’s the routine.”

Another woman noted,

I just enjoy it. It’s fun. It’s not a chore. Most of the time when you start it’s a chore.

You have to get your mind together and pump yourself up to go. Now I don’t have to. I don’t have to...In the past, yes, you had to get your mind together and now it’s something

I really enjoy so it’s not a chore as it used to be.

Modification Loop

Though the Benefits-Motivation-Execution cycle is depicted within Harley’s framework as the final step of physical activity integration (see Figure 1), feedback arrows to the Modification Loop reflect the constant need for modification of physical activity regimens in order to adapt to life’s inevitable changes. During the focus group, one participant highlighted the importance of this part of the process, noting,

When I look at the model here, one of the things I kept going back to was that Modification Loop and changing of the regimen...and I do that a lot. And that’s because, you know, things change ... And I would assume that that is constant, because you would get really, really bored just doing the same thing – especially if you’re not getting a good result. That modification part is always going to be looping. We should always be changing and doing something else.

This sentiment was expressed by several participants during the individual interviews, including one who reported engagement in regular, dedicated physical activity for the past eleven years.

She stated,

I do several different things. Some days I walk; I do cardio, Zumba. I do a variety of things. I don't have one specific thing I do because I've been doing it so long I know you get bored. So I change it up on any given day. It just depends on how I feel...I might ride a bike or whatever. I don't have a routine as to what I do, but I do get physical activity every day because I'll get bored really quick. I have to change it up.

Another participant emphasized the need for change to maintain results, noting that she also frequently modified her activity regimen:

...just because your body gets so used to certain workouts, plans, regimens, to the point that it doesn't respond as effectively. So to keep it from plateauing, whether it be through diet or through exercise, you have to continuously change it or your body adapts to it.

Many of the women discussed a need to modify their activity regimens for extended periods of time while dealing with work obligations, family responsibilities, or health concerns. For example, one woman described recent changes made to avoid exacerbating back pain:

I had to change it up a bit. I was scheduled for physical therapy and I wanted to make sure the activities that I was doing was not hurting me and so in doing that I started walking. I have a dog, so I took the dog out and she loves it; so we were walking. Then I started doing elliptical because I was going online trying to figure out what can you do with a bad disk or a bulging disk and...exercise-wise...and not further hurt it or ... So I

started trying out a few of those things, but I knew at some point I wanted to get back into being a little bit more active. This week actually, this is my first kick boxing class in about 3 weeks. I went last night and it was great. I've been going to a couple of spin classes in the interim, so I've been doing things with the eye of watching myself, seeing if I feel anything or if things feel off kilter. But if it's nothing but walking, I will do that. For all the women, finding ways to adapt their activity regimens was an important element of maintaining a physically active lifestyle.

Cessation of Activity

All participants reported stopping, or at least significantly reducing, their involvement in physical activity for a period of time. These temporary lapses in activity were viewed as normal, expected, and accepted (though sometimes disappointing) occurrences. Only one participant denied complete cessation of physical activity. This participant was unmarried, did not have children, and reported a history of physical activity for over 30 years beginning in adolescence. She described one 2-year period during which her activity decreased below her typical standard:

I think the only period I had was that 2005...2005-2007, I wasn't doing it as regularly. I was still in the gym. Trust me, I was in there, but it wasn't that five to six days a week. I just couldn't do it. I just couldn't get going. I think that's the longest I've been without doing it for five to six days a week...Instead of going five days a week, I would go two, three, because I was commuting. I had to do field. I was working like a machine. I wasn't doing it the five days a week that I'm doing now. It was more like two to three.

Her activity subsequently decreased further, but even after leaving her job (and thus her gym membership) to attend graduate school full-time, she continued to achieve nationally recommended levels of physical activity:

I was still exercising because I had to walk my dog, and I walked him at least 30 minutes a day in the morning, and then 30 at night. We went hiking with my dog, so I was still ...

I just wasn't in the gym because I didn't have the money for the gym membership.

All other participants acknowledged a period of cessation, including the other two women identified as "lifelong" or "naturally" active. One noted,

Yeah. There's been times when I wasn't doing anything... When I was... Maybe for, like, several months at a time, until I could get to something else. I'm thinking about it... Hmm... That's been a long time ago. Maybe like I wasn't really doing anything special for several months and then I'd start back or I was in school. When I was in med tech school I wasn't doing anything but going to school and studying.

The other reported, "When I had surgery I couldn't work out for two months. It was terrible because... I couldn't come to the gym."

In contrast to these women, who reported infrequent and brief breaks from activity (i.e., 18 months or less), the other participants tended to experience longer lapses. These periods often occurred early in their experiences with physical activity. For example, one participant had been active in a gym during her early 20s, but subsequently lapsed from activity for over a decade. She noted,

It was back ... Let me see, I got married, moved to an area you didn't know anything about. I remember then I was part of a gym but when I moved out there I had to cancel because there was not one in that area. Then you have your kids, and just the whole family dynamics of having small kids and it just... I just never got back into it.

Women who had been consistently active for longer periods of time indicated that their activity regimens were most often disrupted by discrete events, such as family crises and medical

problems. For example, one participant was completely inactive while awaiting a lung transplant. She stated,

Probably after I had lung disease, I couldn't so...It's hard breathing. When you can't breathe it's hard for you to do anything, I'm here to tell you. That would be the only time that I was limited in my activities. I couldn't even do my...I don't think I could even sweep without, or run the vacuum without getting out of breath. I was just so tired all the time. All the time I was just tired.

During periods of inactivity, the women often experienced a loss of benefits. They reported noticing changes such as weight gain, ill-fitting clothes, labored breathing, and elevations in blood pressure. One participant reported lapsing from her regular walking regimen during the winter months, but noted that she soon began walking again,

When my scrubs started getting tight. I didn't have no money to buy no new scrubs, and if I go buy a bigger size and I decide to go back to lose the weight, now I got scrubs...And so I'm like, I got to do something because, I mean, they were getting *tight*.

Recognizing such negative changes was common catalyst for resumed activity. The women gradually returned to their usual activities or modified their regimen to better accommodate the changes that may have contributed to their absence from physical activity.

Contexts Associated with Physical Activity

Participants in this study described their experiences within the unique contexts of their personal lives. Yet, their narratives also reflected commonalities related to the shared context of their experiences as African American women at midlife. These issues are described below, followed by a description of commonly reported conditions found to influence the women's development of physically active lifestyles.

African American Ethnicity

With the exception of one participant, who spoke about physical activity primarily through its association with her Buddhist beliefs and practice, the women in this study discussed their experiences with physical activity largely within the context of their lives as African American women. They noted several issues related to African American ethnicity, including chronic illnesses associated with inactivity and obesity among African Americans, cultural norms and beliefs related to physical activity, stereotypes of African American women, and barriers (or lack thereof) associated with hair type.

Many of the women mentioned common medical conditions associated with sedentary lifestyles and expressed awareness of these illnesses as risk factors for poorer health among African Americans. Often, a desire to avoid developing such illnesses was noted as a motivator for being physically active. One participant stated, “I noticed that the hypertension is rampant among African Americans. My father had it, and I don’t want it.” Another noted,

I have a nephew who died last year and basically it was obesity. So when those factors are sitting right in front of you it makes you realize that you got to do something for you when you realize that your family has genetics that incorporate diabetes, high blood pressure.

A few of the women observed that engagement in physical activity was not prioritized in African American culture, at least among individuals they encountered. One noted,

I’m from the era where they thought fat was healthy. To exercise, for Black people in my era and the people that I grew up with – I went to an all-Black school – exercise just wasn’t big with us, especially for women, unless you were an athlete, and I wasn’t. But it was no big deal.

Even if they were raised in cultural environments where the importance of physical activity was not emphasized, many of the women in this study felt driven to pass along their values about physical activity to others. They noted efforts to encourage friends, family, and co-workers to increase activity and described involving children and grandchildren in activity. One participant had taken her two-year-old granddaughter walking and noted plans to do so more frequently in the future: “As soon as she gets of age and I’m still around, I’m sure she’ll be out there. Yes, she loves it. She’s a little brickhouse already so I want her to get out there, seriously. I do.”

Some of the participants spoke of stereotypes of African American women and their desire to combat these images. One woman described the satisfaction she experiences when health professionals are surprised by her well-controlled blood pressure. She shared,

They probably think, “Oh, here she comes. She’s going to have hypertension. She’s African American and female.” Then they put that cuff on me and they always say, “Whoa!” I say, “Thank you very much.” They’re always shocked because they assume I’m going to have hypertension.

Another participant expressed similar pride when reflecting on her identity as an active African American woman, noting,

I think I kind of want to be different. I don’t know why I’ve always been that way, but I want to be different as far as being a Black female. I don’t want to fall into that same mold that people put us in. I like being different.

Hair Type

Participants acknowledged a general perception that African American women’s hair type could interfere with physical activity. For example, one woman commented, “I know that is an issue for a lot of women, why they don’t work out, because they’ve paid \$80.00 to get their

hair done on Saturday and they don't want to sweat it out on Monday." However, hair was not a personal barrier for any of the women in this study. Some had never experienced difficulty with their hair while being active. One participant relied upon her cosmetology skills: "I didn't have much of a problem with it because I do hair; I have done hair. I've gone to school, cosmetology school. My hair was always short, so I could shampoo it every day and know how to do it."

Others perfected particular styling techniques:

I always would just wrap my hair before I go. Wrap it and tie it down, that's how I work out, and I don't undo it until the next day and it's already dry and it's already layered and everything, so that was never an issue for me.

Some participants acknowledged past difficulty balancing physical activity and maintenance of desired hairstyles, but were also able to overcome this challenge. One woman described altering the texture of her hair:

I think my hair was an issue, so I went and permed it now. Keeping it natural, with the salt and the sweating, it was out of control. My hair was an issue, and I knew I didn't want to shave it again. I want to grow it out for graduation, so I relaxed it, but I didn't go with a straight perm. I have a wave perm, which works better for exercise.

Several of the participants previously had chemically straightened hair, but transitioned to short styles with their natural texture. One woman stopped chemically processing her hair ten years earlier after experiencing breakage and found that her new style was more suitable for her active lifestyle. She shared,

And she [her beautician] said that, well, if I wanted to do something else later, I could just do something else. But it's so easy. And now I don't have to worry; I don't worry

about it. I can go swimming. I can go out in the rain. I can ride my bike. I can do whatever, and it's not a concern.

Two women in the study used wigs to expand their styling options. One noted,

I don't have a perm in my hair. I usually just pull it back in a ponytail and put a headband on and go for it. I don't sweat a lot, maybe that's probably why it doesn't bother me. If it did, I've got a wig. I've got a bad hair day wig and I can throw it on, but no, it doesn't bother me.

Similarly, when asked whether her hair affected her physical activity, another participant laughed heartily and replied, "Uh-uhn, 'cause I just pull it off, shape it, and put it back on!"

Age

Age was another important context for the experiences of women in this study. Each participant discussed ways in which age had impacted her involvement in physical activity. Age was found to influence initial and ongoing interest in physical activity, ability to participate in certain activities, feedback received about activity, and perceived benefits of activity.

As previously noted, weight gain and health issues were a common reason for initiating and continuing participation in activity. Concerns about weight and health often arose as participants advanced in age, as this participant observed:

You just go through the mindset of...that you're getting heavy and you know that you're not moving the way you should for your age. You're just seeing changes that you don't necessarily want to see, but then as you age, sometimes those changes happen all of a sudden and you look in the mirror and you're like, "Oh my God."

Another woman described a similar recognition of the need for change. She had briefly participated in regular physical activity when younger, but had been largely inactive for several

years before realizing, “Hey, we are past even the middle age now,” and becoming more attentive to health risks and reinitiating activity. She noted,

As we get older we start to settle down and realize that I am middle-aged. I have passed middle age and I’ve got to do some changes because my body can’t compensate the way it used to. We just start to realize that it’s time to get serious because it’s getting serious about us. We have to make changes or it’ll make changes *for* us.

Another participant had been active on a regular basis for some time before being diagnosed with hypothyroidism and hypertension. She indicated that these diagnoses strengthened her commitment to physical activity:

I think this is as strong as I’ve ever felt about it since I’ve been exercising and I think that it’s because I was diagnosed recently with hypothyroidism and I was having a hard time losing weight ... And then my blood pressure...I never thought I would be on blood pressure medicine. As I got older, I had to be on blood pressure medicine. Now, I can deal with being on it, but I still want to exercise, stay as healthy as possible.

Others cited a desire to deal with “old age spread” or age-related changes in metabolism as important reasons for starting and maintaining physical activity. They indicated that these physical changes required greater effort to manage than they had experienced when younger.

One participant shared,

I mean, things change. I know I have to up it right now. I can't come in the gym and do 30 minutes on the treadmill. I'll do 45 minutes because I know my metabolism is slowing, so I have to give it a little more, a little extra. I guess that changed.

Another commented, “I want to age gracefully, and it’s just getting harder to do it. Before, it was much easier. Now it’s like, ugh!”

The women expressed pride in their ability to remain active as they got older, but recognized declining skill and other changes in their abilities, which they attributed to age. They were slower in some areas, as noted by a former marathon runner who reported, “I’m not as fast as I used to be.” She continued to run, albeit less quickly, less often, and for shorter distances. Consideration of age and related limitations sometimes prompted the women to opt for participation in certain activities over others, often to preserve function or prevent injury as their bodies changed. For instance, one participant described her recent interest in Zumba and noted,

I kind of love this a little bit better than I liked cardio kickboxing because at my age all the kicking and the boxing and all of that kind of works on your joints and I ain’t trying to mess up nothing, not now.

Others also found it increasingly challenging to keep up with high-impact cardiovascular exercises, but were determined to persist in being active for as long as possible. For example, one participant commented,

All of us older people [in her fitness class] who have been there for a long time...Like, I was talking to this lady recently and she said, “I don’t know how much longer I’m going to be able to do this.” (Laughs) Because it’s very high impact on the knees and everything, but I know there’s something else that we can do or I can do. I want to do this as long as I can.

Similarly, another participant shared, “Things change as you get older and there are things that I know that I can’t do as well as maybe I could have done before, but then there are other things that I’ve figured out how to do it regardless.”

Some participants reported receiving unsupportive or well-intentioned, but off-putting, comments about their physical activity due to their age. One participant, who reported lifelong engagement in dedicated physical activity, shared,

One of my young friends said to me, “I want to be like you when I get 50.” I said, “You make it sound like I got half a foot in the grave or something. What do you mean? Come on now.” She’s like, “I want to be like you when I get older.” I’m like, “What is this?” When young people pay me compliments, they don’t even realize ... They try to compliment me, but then they make ageist remarks. Hearing young people say, “Wow, Ms. [states name]! You’ve been working out!” To me, I’m just doing something that I’ve always done.

Another participant indicated that others had attempted to discourage her from being active. She stated,

I’m not physically able to do...Well, I’m old so I wouldn’t be physically able to do as much as I used to do. I can still do *some* of what I used to do, but with the back and really in my jobs and things, I know I’m...I’ve aged, but I never paid it any attention. I still had the young mind and somebody had to tell me, “Girl, you’re old. You can’t be doing all that.” Because, see, I would ride the bicycle, go walk in the afternoon. We would ride the bicycle and go walking and I got some calls. They said, “You’re too old to be trying to do all that.” I didn’t ever think that you could over-exercise ... I felt great. That’s why I would always want to throw in a walk or do something, but then when that old back started hurting, I said, “Well, I guess I am old.” I never really just took it under consideration because of *age* I had to stop my activity. I didn’t do it and I still don’t do it. They’re just jealous.

Though flare-ups of chronic back pain sometimes interrupted her regimen, she generally maintained participation in activity each week.

Several participants described benefits of activity in relation to healthy aging or in comparison to peers. One noted,

When I look at my girlfriends, who are younger and in their 40s and where they are, and I'm much better off. I'm much better off. They've got to wear Spanx and girdles. I don't have to wear a girdle. I don't have to wear Spanx ... I'm better off. If I wanted...I call it doing a "Michelle Obama," when I just don't put on any pantyhose, and I wear my skirt or whatever, and I'm like, "Yes! I can do it!" Not a lot of 50-year-old women can do that.

Others also acknowledged a more youthful appearance, noting "People don't even...can't guess my age" and "People who don't know me say, 'You look good for your age.'"

Many of the women discussed their ability to move comfortably and maintain independence as they grew older. These benefits appeared to be particularly valued and were repeatedly noted as participants expressed satisfaction that they were able to do what others, including younger individuals, could not. For example, one participant shared,

I can do a lot of things. I don't have trouble bending and squatting and stooping. Then I see other people my age. They complain of knee pain. I don't have pain or discomfort, and I have people younger than me who's not physically active. They always have some type of physical complaint or whatever.

Similarly, another woman noted,

After I turned 60, I started realizing ... because I work with people who are younger who could not do the things that I do. And so I think I realized that after I got 60 that “Hey, I can still do this.” I can still walk four blocks and not be tired.

Another stated,

For me, just being able to move around and not ... because I can do things. Like my grandkids would say, “Grandma, you're sitting on the floor.” I can do things that a lot of people my age can't do, getting up and down and just being physically fit to take care of myself.

Recognizing these benefits helped the women to feel that they were achieving their reported goals to “age gracefully” and “stay as physically fit as possible as I age.”

Though several women indicated serving as a role model or encouraging others, one participant specifically discussed this role with regard to healthy aging and ongoing physical activity. Describing her desire to influence her children, she stated,

I'm hoping that whatever I do can encourage them, that when they get to my age that ‘Hey, you know, she did it. She was still doing, you know, blah, blah, blah when she was 60.’ That's why I do it and try to be a role model for them, for the age. They are just in their late 30s. You can still be doing this when you are 60, 70, whatever, 80.

Conditions Influencing Physical Activity

Harley (2005) identified three factors – planning methods, physical activity companions, and benefits – as key conditions for moving from initiation and adoption of physical activity to integration of physical activity into one's lifestyle. Each of these concepts was reflected in the reported experiences of women in this study and found to influence their participation in physical activity.

Planning Methods

Every participant described planning for activity in some way. Most reported having an established routine based on participation in regularly scheduled exercise groups or self-directed activity scheduled around work or other obligations. Some women's regimens involved specific activities at specific times. For example, one participant reported,

I prefer to get up early morning and finish my workout before I go to work. I have to be at work at 8:00, so I'll get up and go to the gym between 4:30 and 5:00, and I'm out of there by 7:00. That's time for me ... Well, I have to be at work at 8:30. I've changed my shift. That allows me time to get home, get ready for work, and go to work. Then if I'm not traveling, if it's a day that they're doing Zumba, I'll go back that afternoon and do Zumba.

This type of planning was most often reported by working women, who would engage in physical activity either in the morning before work or in the early evening after returning from work. The morning exercisers reported that participating in physical activity early helped energize them for the remainder of the day and prevented them from having to miss an activity session due to fatigue, rising temperatures, or competing obligations that might arise later in the day. Those who were active in the evening indicating choosing this option because they had other responsibilities in the morning (e.g., preparing children for school), enjoyed the types of fitness classes offered in the evenings, or were unwilling or unable to get up early to exercise. One such participant stated simply, "I'm not a morning person." Women who participated in scheduled groups or classes in the evening reported little difficulty adhering to their planned regimen. Those who exercised at home at unspecified times found it more challenging to meet their goals for activity. For example, one participant – a mother of two children, ages 11 and 15

– noted that her evening plans for physical activity were sometimes abbreviated or cancelled. She explained,

Sometimes it may seem that I am just so physically exhausted when I get from work. Maybe my load was a lot heavier than normal and I get here or maybe the kids have this really important assignment that's due – this science project that's worth 100 points and tonight we need to tidy it up and we need to get some things printed. We have to go buy ink because we couldn't do it last night, so now my focus is on them. That seems to take priority over the fact that I really wanted to exercise tonight, but let me do that. So I may not do it or either I may...what would have been 20 minutes, now I'm only going to do 10.

Women without children in the home indicated having much greater scheduling flexibility. One noted, "There is nothing that interferes. My children are grown and my fiancé, he knows that I'm not going to let him interfere." Another reported, "Not for me, only because I'm single. I'm divorced and my children are grown and so it's just me. I don't have to juggle around anything like cooking or anything like that for the family." Women who were no longer working reported having more time for physical activity as well. They were able to schedule activity at different times throughout the day and could more readily schedule other events or plans around physical activity. One participant noted that scheduling physical activity and other plans post-employment was easy. She stated, "Oh yeah. I'm retired, so I'm flexible."

All participants, including those who tended to schedule activity at specific times, indicated being flexible with their physical activity regimens. Some women rarely missed a session because they prioritized their physical activity. One woman reported,

My daughter kids me about it all the time. She's like, "Okay, are you trying to get to the gym?" Because I schedule things around the gym and I have to say, like, "Okay, I can't do that all the time," but I find myself doing it. Somebody might ask me to do something with them and I was like, "What time is the class?" And I'll schedule it around it. I'm kind of hooked.

Yet even she sometimes experienced conflicts. Every participant acknowledged missing a session of physical activity at times. A variety of reasons for missed sessions were reported, including fatigue, inclement weather, conflicting appointments, travel, school or work demands, and family responsibilities.

Participants reported managing their various responsibilities and making up for missed activity sessions by planning alternatives in advance or taking advantage of impromptu opportunities for activity. The women reported having a variety of fitness equipment in their homes, including a treadmill, elliptical machine, Ab Lounge, bicycle, weights, resistance bands, balls, jump rope, hula hoops, and fitness videos or DVDs. Though some used these items as part of their planned regimen, others relied on these resources as a back-up for missed sessions. For example, one participant reported feeling "a little depressed" when unable to complete her usual workout in a local recreation center, but would often compensate for the missed activity at home. She noted,

I've incorporated several things at my home. I've got an elliptical machine. I can do that and I've got weights; I've got workout tapes. I don't feel like I just don't have to do anything or I'm not at the liberty of being able to do any kind of workout.

Several participants reported increasing the intensity and duration of household activities (e.g., cleaning) and doing repetitions of exercises or routines they had learned in classes. Some waked

near their homes, and one participant even used her hallway as a track. She reported, “I run up and down my hallway, for ten laps I’d say. I have a pretty long hallway. I’ll do that back and forth.”

The women sometimes made up for missed sessions by doing their usual activity at an alternate time on the same day. For example, participants who typically exercised in the mornings might instead do so in the evening. One noted, “If I’m off, if I don’t get up that morning I’ll go that evening and walk, but I’m going to get the walk in.” Participants also arranged to engage in physical activity on an alternate day. Another woman explained,

On a day that I would not normally workout, I just make sure that I do. I just make sure that I make that time for myself during that week or however many times I’m...If I’m doing three days a week, I want to make sure that I get the three days in. I’ve got seven days to get them in.

Some made up for missed activity on the weekend; others chose to “double up” on their usual activity during the next scheduled session. One participant reported,

Sometimes I don’t think about it, but once I get there, then I think, “I’m going to stay because I didn’t get to come this week. I’ll go ahead and stay and do two classes.” It’s just kind of a...Sometimes, I’m not conscious that I’m thinking of it and then I get there and it’s like, “Oh, I can stay.”

Participants recognized a need to be flexible with their physical activity regimens in order to accommodate competing obligations and changing life circumstances. Though they did not like to miss planned sessions of physical activity, all the women expressed confidence in their ability to resume their planned activity or develop a new plan to maintain their lifestyles.

Activity Companions

Participants described receiving support for physical activity from several sources, including personal trainers, fitness instructors, spouses, family, friends, church members, and co-workers. Harley (2005) proposed that these individuals served in four primary roles: facilitative, instructional, motivational, and social. Participants in the current study described individuals in their lives who provided each of these forms of support.

Facilitative. Individuals serving in this role facilitated participants' involvement in physical activity by introducing them to new opportunities for activity engagement. Participants were often referred to new venues (e.g., a particular gym or class) or invited to participate in a particular activity by friends, family, and acquaintances with previous experience in those areas. Being informed of these new opportunities helped some of the women identify activities that were more appealing or appropriate for their needs and interest. One participant noted,

Talking with friends or co-workers and hearing about other available avenues that were out there for working out. Once you start working out everybody thinks you've got to run, you've got to lift weights and all that kind of stuff and that just wasn't a fit for me, so just discussing with different people.

While some participants actively sought recommendations for physical activity, others received unexpected or unsolicited suggestions. For example, one participant joined a church-sponsored strength training class after repeatedly hearing about it from others involved. She noted,

Everybody was talking about – well, some of the ladies at my church was talking about – exercise class, so I decided one day just to go. And the instructor had invited me to come and I kept telling her I was going to come and I was going to come and never would, so finally I just made up my mind to go ahead on and I've been in it ever since.

Though all participants reported having an established routine or set of preferred activities, several women also expressed openness and eagerness to try new things in order to stave off boredom, challenge themselves, or simply experiment with something different. These women's exploration of new activities was often facilitated by someone else, most commonly women they had met through participation in other physical activity. For instance, when asked how she had selected her most recent activities, one participant noted, "Some ladies over at the rec, actually. I've met them and they were doing certain things so they invited me to do some things." Others expressed a similar readiness and sense of ease about experimenting. When a new opportunity for activity was recommended, they were typically "willing to give it a try."

Instructional. Participants also reported learning about specific physical activity techniques from friends, trainers, and instructors. This learning sometimes took place informally through tips and demonstrations provided by peers or through books and video recordings. For example, one woman, who continued to participate in self-directed aerobic and strength training exercises at the time of this study, first learned about weight lifting from colleagues during her military service and subsequently sought additional resources. She reported,

I was in the Service, and a friend ... I'll never forget, his name was Ron. He showed me how to do the weights. He showed me ... Another guy was a guy named Mikey; he showed me how to do the weights. They taught me how to do the weights, and then I bought a book. I think her name ... She was a bodybuilder by the name of Gladys Portugues. I think that was her name, and she had this amazing book about how to do ... how women should do bodybuilding. She was good, she was good. I read that book. The aerobics, it was ... Back in the day, Jane Fonda was "the bomb," so I had a Jane Fonda video. I would come home at night and do it every night!

Many of the women reported using videotapes or DVDs for exercise instruction. One selected this option due to a lack of other outlets for her preferred activity (belly dancing). Others chose to use these methods because they were affordable or allowed the women to privately experiment with different activities when they felt self-conscious about trying something new. Several participants also noted that recorded instruction was more convenient, as such resources were readily available when they were unable or uninterested in participating in physical activity outside the home.

Participants also received more formal instruction through paid training sessions, exercise classes, and lessons. Two participants who reported lifelong activity had taken lessons in dance and tennis during adolescence and continued to participate in these activities for several decades into adulthood. One of these women had also taken lessons in racquetball, golf, and swimming. Another had recently begun lessons in horseback riding, which enabled her to be physically active and fulfill a goal on her “bucket list.” A few participants had received one-on-one instruction from personal trainers, which they indicated was helpful for learning new activities, increasing the intensity of their workouts, or working toward specific goals. One participant described the assistance her trainer provided in establishing suitable goals. She noted,

Charles pretty much helped me with that, my personal trainer. He helped me with that. He would ask, “What do you want, where do you want to be?” He’d discuss age versus not trying to do what a 20-year-old would do; what was age appropriate for me. It was when I was working with him for the first time.

Some of the women sought personal training on multiple occasions, for a change of pace between different activities or to achieve certain results.

Participation in fitness classes was commonly reported. Two participants reported having negative experiences in the past due to a perceived lack of adequate instruction. One shared,

Then I went to the Y and tried doing an exercise class there, and they were too far ahead. It was like the teacher...Everybody has been coming but you just started and it's like the teacher won't just take time to show you or to slow it down so you can get up to where everybody else is, so I stopped doing that, too, because I felt like they were too far advanced for me and I'm going to always be behind. I just stopped doing that.

Another woman reported,

It just did not...I just didn't fit in. It was just that it was more of a buddy-buddy system: "I'll work with you; you're my friend. *You* get it the best way you can." If I'm paying, I can go home, so I went home. That just encouraged me to go back and take aerobics anywhere else.

Both these women were enrolled in new fitness classes at the time of this study. They, and several other participants, noted that the classes were a useful way to learn activities and receive ongoing guidance. Class instructors were identified as helpful for teaching the women how to use equipment and leading basic exercise routines. Instructors also provided exposure to newly developed fitness programs and relevant training. One participant noted involvement in several different classes ("Body Pump, Body Attack, Spin and CX Works – those things") and reported,

This was something new that they brought to the gym. I've been attending this gym for about 20 years and now...you know how fitness changes. People start putting out the different videos and things. This is Les Mills. He does the strength training, the cardio training and they brought it to the gym. They brought in new instructors and I just tried it.

Motivational. Fitness instructors also served as motivators for the women, offering encouragement and pushing them to work harder. One participant indicated that she specifically sought instructor-led classes for this reason. She noted,

I usually find something, especially if it's instructor-driven, because a lot of times they'll change it up, their own routines and stuff, but if I'm with an instructor who pushes and instructs and then you see results, it's addictive and you crave that and you start measuring other people and other classes by that.

Family, friends, and acquaintances provided a similar push. One woman was motivated by her husband. She did not exercise with him, but indicated that his interest in physical activity complemented her own. She noted,

My husband, he works out a lot, too, so we have a gym at the house. Sometimes it's a competition of who's looking better. (Laughs) I think with him being active and always wanting different apparatus at the house that we have, it kind of influenced me to stay on my game as well.

Participants noted that their friends provided motivation by encouraging them to participate in activities, inquiring about their progress, and serving as exercise partners. For example, one woman shared, "When you have somebody that you're doing it with... We encouraged each other. Both of us liked doing it, so we would get together and exercise whenever we could. It made it easier." Participants indicated that exercising with a friend or acquaintance motivated them to follow through with planned activity by making them feel accountable. One woman described this influence well when she noted,

I usually do feel it's beneficial to have a workout partner just because it gives you that accountability, but a lot of times I do fine by myself. But if I have someone else that's

waiting for me, that I have an appointment to be there at that time...I structure it that way so it reinforces that I'm going to go that day.

Social. Participants reported that physical activity provided them with an opportunity to socialize and strengthen or create connections to others. They indicated that social contact made their physical activity more enjoyable or fun. Some participants noted that their initial interest in activity was prompted by a desire to spend time with friends. One woman attributed her start "...to another co-worker that I worked with then. We actually did walk. Sometimes we would walk twice a day as much as an hour to an hour and a half. A really close-knit friend that I shared those times with." Another participant also recalled beginning her life as an active woman by walking with a friend. She noted that this activity was made most enjoyable by "Our conversations, just talking about family and everything. Friendship." For some participants, friendship and social companionship remained important as they progressed in their physical activity development. They continued to seek opportunities to be active with others, at least occasionally. One reported,

I think I've surrounded myself ... I do have friends that do work out, that we tend to work out together off and on. We always try to sometimes do a group thing because it's more fun to do it as a group than to do it by yourself.

While some participants' physical activity companions were longtime friends, several women noted that physical activity had helped them to develop relationships. One participant got to know her neighbor better after they began walking together in their neighborhood. When asked whether they had spent any time together before, she replied, "No, we didn't. Every now and then we'll holler across the yard, but now that we are walking, then we have things that we

can relate to together.” This same participant indicated that her walking group had grown close enough to confide in one another like family. She explained,

You’d be amazed at how many problems get solved while you’re exercising. You can be like a family. Whatever you say in your little group stays in the little group, and we can get a lot of problems solved. We sure can. We discuss things when we’re walking.

Others described meeting new friends and growing close to fellow attendees in their fitness classes. For example, one participant said of the women in her classes, “They have become friends. We like to try to lunch, or if there’s a certain event, they’ll invite me to something and I’ll invite them to something, and we email quite often so it’s grown the friendship.”

While participating in physical activity with friends could be seen as a way to help maintain the friendship, none of the women interviewed specifically discussed this function. However, one participant did report that her involvement in physical activity was largely driven by a desire to remain close to her children, especially her youngest daughter and son-in-law, who were both “into health and fitness.” She stated,

So if they are doing something, I’m there. I’m involved in it. It helps me to spend time with them. That is my main motivation, is whatever they are doing, I try to be involved with them. So that might be walking or it may be more extreme like bicycling ...

Whatever they are doing, I try to emulate so I can spend time with them.

Although many participants reported that they enjoyed being active with others, most expressed a preference for working out alone at least some of the time. They cited several reasons for this tendency. One woman endorsed a preference for individual activity because she was raised as an only child and had negative experiences with group activities when she was younger (e.g., “I was that kid who was like, the last one anybody wanted to pick for their sports

team, you know”). Some participants preferred to be active alone because doing so provided an opportunity for them to relax, pray, or enjoy solitude. One woman noted that the comparatively slower pace of life in Alabama was more conducive to solo activity than her previous home. She reported,

I like to do it by myself. I guess in New York I didn't have no choice; there was no such thing as being by yourself. Even on your quietest days there still was a lot of people around. Yes, it does. I just like to do it by myself now.

For some participants, exercising alone was more convenient due to time constraints. One participant reported choosing this option “Because I get in and out. It's the time factor, get in and get out. It's the clock, got to go, got to go.” Another busy woman noted,

I like to walk alone because I like to walk at my pace. I walk very briskly and I'm not there to conversate a lot of times. I just want to work out because I have things to do, so I try to use my time wisely.

Lack of appropriate physical activity companions also led some participants to be active alone. One woman, who had been active for much of her life, found it difficult to find exercise partners of similar ability for some activities. She noted, “At the gym I usually work out alone. It's hard to find somebody at your level.” Another participant found it similarly challenging to identify an exercise partner – particularly a female partner – who shared her level of dedication. She noted,

But the thing is, somebody who's dedicated, somebody who is pretty regimented, where they're creatures of habit and that they're pretty open-minded as far as working out and willingness to do different things to get their bodies the way they need to...Prior, I usually only would work out with men. I wouldn't work out with women, because

typically women would have more distractions or more reasons not to. A little more inconsistent and that type of thing.

For these reasons, she stated, “a lot of times I do fine by myself.”

Several participants indicated that they often engaged in physical activity alone because they could not rely on consistent support and companionship from others. For example, one participant said of her walking partners,

They’ll do it once or twice and then the next time it’s “Oh, the weather” or “Something came up, I can’t do it this week, let’s cancel ‘til next week”, so it’s not consistent. There are some times when maybe I’ll go and meet somebody at the park and walk, but not consistently.

Another woman shared her disappointment with hearing similar excuses:

If you start walking with somebody, you look around and nobody’s walking but me.

“No, I have to do this. I got to carry the cat to the back door this morning. I got to do this. I got to do that.” You lose interest.

Social support and companionship appeared to be most important during the initiation phase of physical activity development. During this early period, companions were viewed as assets. They introduced participants to new activities, helped make activity sessions more enjoyable, and motivated participants to continue being active by offering encouragement and promoting accountability. Over time, these functions became less necessary. As participants became increasingly committed to physical activity, their interest, ability, and availability often exceeded that of their previous companions. One participant commented, “Now, used to I would need somebody to go with. Now, I just go on my own, whether she [a friend] goes or not because she doesn’t get to walk or anything. She’s not as active as I am.”

Some participants had friends who remained willing and able to exercise with them, but were perceived as potentially interfering with desired activity by causing delays, as noted above, or limiting the effectiveness of the workout. One participant described her strategy for handling this issue:

If you call me and ask me to go walking with you, I'll go with you but then what I'll do is if you say, "Okay, [states name], we're going to walk at 8:30," I'm going to go at 7:45.

I'm going to get two laps in before you come and then I'm going to finish the rest of them with you. At least so I know I got two by myself that really worked me, because I know that we ain't going to do nothing but walk and talk.

Benefits

Realization of benefits was an integral feature of participant's physical activity development. As previously noted, women often initiated physical activity in order to obtain specific, expected benefits such as weight loss and prevention or management of chronic health conditions. While working toward these ends, the women experienced other early benefits, such as better sleep and endurance. As they transitioned further and began to integrate regular physical activity into their lives, the benefits they observed expanded greatly. Participants cited numerous benefits of physical activity, including ongoing weight management, curbed appetite, greater dietary flexibility, toned body, more youthful appearance, better fit in clothes, compliments from others, increased self-confidence, heightened body awareness and sense of femininity, reduced risk of chronic illness, improved control of blood pressure, cholesterol, and blood glucose levels, reduced reliance on medications, sound sleep, increased energy, easier breathing, increased endurance, physical strength, stamina, enhanced mobility and physical flexibility, reduced chronic pain, clarity of thought, stress relief, relaxation, time to self,

opportunity to meet new people and spend time with others, reduced boredom and loneliness, more patience with others, and a happier, more positive attitude.

As discussed earlier, recognition of benefits motivated the women to persist in their physical activity efforts. When interviewed for this study, several participants reported ongoing goals to continue losing weight. However, most indicated that they had become less focused on such specific changes and more interested in maintaining the many other benefits they had achieved. One participant, who had reached her desired weight, reported that her goals had shifted several years ago. She identified new goals, noting,

To just stay physically fit, endurance and ... I'm not so much worried about my weight any more. I want to stay toned and I want to stay ... have a high endurance of physical activities, but as far as weight loss I don't dwell on it any more. Matter of a fact I put my scales up long ago.

Another noted, "I just want to stay fit and look good in my clothes." All of the participants in this study identified themselves as physically active women and they all expressed a strong desire to continue identifying as such by remaining active. The ability to care for self and *stay* fit, healthy, and active seemed to be the most desirable benefits for them all. This was best exemplified by a participant who indicated that her most important goal was

...maintaining the desire to work out. I want to make sure it's a lifestyle thing. I don't want to just stop; I don't want to let it dwindle away. I want to work on trying to be as healthy and as strong as I can, for as long as I can.

Environment

A question regarding the impact of the environment on physical activity was incorporated into the interview guide after this issue was raised during a pilot interview prior to this study.

Participants in the current study often brought up this issue on their own without prompting. When the question was asked directly, participants were encouraged to respond based on their own conceptualization of environment. All participants indicated that their physical activity was influenced in some way by the environment. They described the impact of safety issues, natural settings, built environments, geographic location, and weather and seasonal changes.

Safety. Two participants discussed safety concerns related to their environments. One woman indicated that such concerns might prompt her to skip a planned activity and substitute with a shorter session in her home. She reported,

Safety is certainly a factor. I try to go to those public places where you see there's other people walking. I have gone places, sometimes to that park – maybe Monnish – when there's not anybody there and I probably did go ahead and come home and did not exercise as long as I would have had I walked. But when I drive up and see little kids running around and someone's having a birthday party there, I feel secure. I feel safe because there's a crowd out here. But if go there and there's not somebody there and it's not like peak daytime, I may not; and if there's just this one gentleman that's sitting there, then I may not stop. Certainly I watch my environment to see what's going on around me.

Another woman modified her walking schedule after observing a suspicious vehicle near her usual route. She noted,

That was my thing all the time, that it's not safe out there, but like I said for a long time it hadn't been nobody out there but me walking at that time of morning. I didn't feel it until this car just pulled up one morning. So it started and I said, “Well, okay [states name],

don't walk at 6:00 no more." I started walking between 7:30 and 8:00 where there are more people out walking.

Natural and Built Environments. As previously noted, many of the women reported walking for physical activity, often outside. A few of them commented on how much they "liked," "loved," or "enjoyed" being outdoors in "pretty" natural settings. One participant fondly recalled, "The flowers were just so beautiful and it smelled so good and I would just walk. I forgot about that. In Prospect Park in New York City. Loved it." Another participant – a fitness instructor and owner of a Pilates studio – described designing her attractive, spa-like studio to be similarly pleasing. She noted, "I like it to be a place where when people come, they're very calm and comfortable and it's where, hopefully, they leave their stressors outside."

While some participants indicated that aesthetic aspects of an environment helped to make their physical activity more pleasant, others focused on ways in which the physical environment contributed to convenience or helped improve the effectiveness or intensity of their activity. For example, one participant often walked along a nearby river, but highlighted the man-made features of this environment over other outdoor settings. She described adding three repetitions of stair-climbing to her regular walking regimen, noting,

That was another activity that I added into it. At the RiverWalk they got stairs...and that's why I like the RiverWalk, because you can do different things and you don't have to just ... like at Snow Hinton Park. You ain't going to do nothing but walk out there or jog. Others elected to be active indoors, at home or in a fitness facility, for greater accessibility to instruction and equipment or to avoid discomfort or inconvenience. One participant purchased a treadmill and other supplies to create a personal environment that was conducive to regular activity. She stated,

I don't like being outside; it's too hot ... either it's too hot or it's too cold, so I can ... I have the option of walking when I get ready, and so I think that it is more convenient for me with the treadmill. I have an Ab-Lounger also, and I have a bicycle and a jump rope.

Geographic Location. Some participants indicated that geographic location affected their involvement in physical activity. Two women had previously been quite active by walking for transportation, but noted that their activity levels declined after relocating to Alabama from northern states. One noted, “When I was in Connecticut I walked all the time. I walked everywhere. I didn't know how to drive so anywhere I wanted to go I walked. Then when I came down here it was like...just got lazy and stopped doing it.” Another participant, who had relocated from urban New Jersey, stated that she had been “raised in an environment that encouraged walking,” but found it more challenging to walk as regularly after moving to Alabama because “people drive everywhere in the south.” Another woman moved frequently due to her husband’s military service and found that her activity fluctuated with differences in the local climate. She reported,

In Maryland in the winter, I guess I didn't do anything, because it was cold. And when I left there I moved to Hawaii, where you could do anything all the time ... Well, when you live in a place that's warm all the time, you can do stuff all the time. When you live in a place that's cold...

Weather and Seasonal Changes. Seasonal patterns and changes in weather were frequently mentioned and described as having both positive and negative effects on participants' physical activity. Warm weather prompted increases in activity for many women. One participant, interviewed in early spring, commented, “This is the time of year where I really,

really feel like getting my workout on.” When describing the changes that led her to reinstate activity, another participant noted,

I would probably say even with the different seasons. People feel like when it’s spring time or summer time, it’s time to shed the coat. People can actually see what you put on over the holidays. There goes the Thanksgiving Roll, here’s the Christmas Roll, the New Year’s...So the spring time is definitely a key that you want to put your shorts on or the capri pants. You don’t want to feel so left out or you don’t want to be a laughing stock when you walk out the door. Those are certainly times when physical activity kind of beefs up. And then the weather is a little bit nicer to get out and the time changes so daylight hours are longer. All of those tend to make me want to increase the physical activity again.

Similarly, other women noted that warmer temperatures and additional daylight during the spring and summer months provided additional opportunities to obtain physical activity through seasonal chores (e.g., gardening, lawn care) and permitted them to engage in outdoor activities (e.g., bicycling, walking) scheduled later in the day, while feeling safer doing so.

For some of the women, cold weather was not a significant barrier to activity. They might continue to participate in outdoor activities, with some modifications or increased attentiveness to temperature extremes. For example, one participant shared,

We had a ride once where it was 17 degrees. And I’m a crazy idiot so I did that ride. I wasn’t going to do the whole thing and one of the guys says, “How far are you going? If you want to do the 70, I’ll do the 70 with you.” And I said “Okay.” And I did it. But normally I would never do that. I would never do that again. But 40s, 50s; I ride in that. Yeah.

Another dedicated woman stated, “Even when it's cold or whatever, I come...Cold weather, I would go outside and walk. Even when it was below freezing, I'd put on gloves and hats and shirts. Then as I warmed up, I would take off layers.”

Others would temporarily suspend outdoor activities and continue being active inside, though their frequency of activity might decrease. For instance, while describing her activity regimen over the previous year, one participant noted,

Then I exercised all the way up until – heavy exercise – all the way up until probably November; that's when it first started getting cold, but I still was exercising. I wasn't doing as much exercise as I knew I could do, was in November.

She later added,

Let me see, in the wintertime I still was doing some exercises. Like I said, I got Zumba at home and the exercises; I just wasn't walking. I just started back walking when the weather broke and it got nice. It was a slow period. I don't know about that wintertime, it was just like I didn't want to do nothing in the wintertime. I would still go to exercise class and I still do the Zumba at home. Those are the basics of the two that I did.

Day-to-day fluctuations in weather sometimes affected the women's plans for physical activity. One participant noted being mindful of weather reports due to her and her walking partners' age and health conditions:

Then there was times that the weatherman said if you're old, don't go out unless you have to because the heat index was so high. We missed a little on that, but if we get up like 6:00 in the morning and walk through the park, then it's OK. It does get rather hot and I think all of us have a little touch of diabetes and stuff and we can't really stay in the heat that long.

Another participant noted feeling unmotivated during rain showers, which caused her to skip planned activity sessions:

If it's raining, I ain't going. I don't be in a good mood to go. One morning, when I looked out the window it didn't look like it was going to rain and I had got up and put my clothes on and everything. By the time I got out the bathroom and looked out the door, it was pouring down water. Well Lord, I guess I won't ... When it be like that I won't even get into no exercise in the house, I just ... I got back in the bed and went to sleep. That's what I did.

Several other participants indicated that rain sometimes interfered with their outdoor physical activity. All reported making up for missed sessions on another day.

Two women in the study noted that their physical activity was significantly impacted by an extreme weather event: the EF4 tornado that hit Tuscaloosa, AL in April 2011. One participant worked out regularly in a fitness center, but also walked an additional half mile daily from her home to the university campus. When asked how the environment impacted her activity, she sighed and sadly reported,

It has a lot, and not in a good way. I think the April tornado messed me up because I had deliberately liked living close to campus. I would walk to campus. That made it difficult, after April 27th, because I used to walk from my Cedar Crest apartment all the way to my office, and then walk back at night. It was great. That was extra walking I was getting in. I can't do that now. I can't do that.

The other participant discontinued her physical activity for about seven months after her home was damaged by the tornado. She stated,

I stopped working out because there were so many other things I needed to do during that tornado ... trying to get my house situated. There were several things I needed to do, so I couldn't get to the gym ... I had stuff I had to do, with contractors coming in and out, and this and that. I had to be at my house for that. It interfered. I guess my exercise was walking around, watching them and doing stuff.

She indicated that this experience had a lasting impact even after she resumed her usual physical activity regimen. She noted,

That tornado is the only thing that interfered with my gym time. I've always...The weather has never stopped me until that tornado. Now if they are predicting a tornado watch or whatever, I don't come to the gym. I'll stay at home and do something around the house or whatever. Before then there was nothing.

A summary of these study results was shared with participants during a focus group held at the Tuscaloosa Public Library. The women present expressed interest in the model and confirmed that it was representative of their own experiences.

CHAPTER 4

DISCUSSION

This study was developed with two primary research questions in mind: Through what process do middle-aged and older African American women become physically active, and what factors are associated with middle-aged and older African American women's successful integration of physical activity into their lives? Fifteen active, middle-aged African American women in Tuscaloosa County volunteered to help answer these questions by describing the histories of their physical activity development. Results of the information they shared indicate that the process by which the women began to adopt and were subsequently able to maintain physical activity was consistent with the Physical Activity Evolution model. Participants described sequential movement through the initiation, transition, and integration phases of process model, and endorsed periods of temporary cessation and subsequent resumption throughout. Interview data also revealed that participant's activity development was guided by several conditions deemed important in the model: methods of planning, support from activity companions, and benefits.

Theoretical Comparisons

This study provides support for the Physical Activity Evolution model, which, as discussed in Chapter 1, is similar in some ways to other theories of health behavior change. Because the current study was able to replicate and demonstrate the applicability of the Physical Activity Evolution framework, it might be expected that similar comparisons to previous theory could be made based on the current findings. Indeed, this is the case. Harley (2005) previously

reviewed similarities between her theory and others, and this review will not be repeated here. However, specific examples from the current study will be briefly discussed to further explicate the study results and illustrate theoretical relevance to the theory of planned behavior, social cognitive theory, and the transtheoretical model.

Theory of Planned Behavior

The theory of planned behavior posits that an individual's performance of a given behavior is driven by intentions to perform the behavior – which are guided by personal attitudes and social norms – along with perceived control of the resources and skills needed to perform the behavior (Ajzen, 1991; Fishbein & Ajzen, 1975). It is apparent that participants in this study had intentions to initiate physical activity, as evidenced by the fact that they purposefully followed through with this action. Many also explicitly reported intentions to continue being physically active by reporting future plans for activity, as this participant noted:

If the classes continue to be as fun as they are now I probably will continue for a longer period of time unless health or something prevents me from it, but as long as I'm physically able to do it I'll probably do it long term.

Attitudinal and normative influences on participant intentions were noted. Participants consistently expressed a positive attitude about physical activity, using such terms as “like,” “love,” “good,” “great,” and “wonderful” when they referenced activity. As discussed in Chapter 3, participants indicated that social norms regarding physical activity were not always positive within the African American community, especially for older women. However, some could see that these views were changing. One woman noted, “It's just more accepted now with older women, because really at a certain point in time, they really didn't go and exercise that much.” Those who encountered negativity indicated that their intentions were not swayed, as

they garnered support from like-minded individuals or ignored feedback that was inconsistent with their personal beliefs about physical activity. Participants' perception of behavioral control was not directly queried; however, as the quote above illustrates, most women seemed confident in their ability to perform physical activity unless some unforeseen or uncontrollable circumstance prevented them from doing so. Though they acknowledged some declines in ability associated with age, they indicated feeling more able-bodied and skilled than inactive peers and were capable of modifying their activities to maintain involvement at a level suitable to their abilities.

Social Cognitive Theory

Bandura's (1986) social cognitive theory proposes that behavior is influenced by reciprocal interaction between personal and environmental factors as well as attributes of the behavior. Self-efficacy – that is, an individual's belief in his or her ability to perform a given behavior – is viewed as the central tenet of social cognitive theory. For a behavior to occur, a person must have self-efficacy, along with positive expectations for a valued outcome (HHS, 1996). Participants in this study clearly had positive outcome expectancies. They initiated activity with an expectation that doing so would have certain results, such as weight loss. Their awareness of these potential results and techniques for achieving them through physical activity was typically influenced by environmental factors, including people and places that provided information about and access to opportunities for physical activity. Participants reported learning through direct instruction and modeling from medical professionals, fitness professionals, family, friends, and acquaintances. This instruction, along with the encouragement and support received from these sources, helped the women to build self-efficacy. A growing sense of capability and confidence was reported by participants. One

participant, who reported feeling uncomfortable and insecure in group fitness settings, developed increasing confidence in her abilities after seeing positive results from her individual efforts.

She reported,

I started adding weights or I would do a slow jog and when I started losing and I seen it I was like “I can do this, I can do this. I know I can do this.” Then I convinced myself that I could do it and I started adding on.

Another participant indicated that a similar sense of self-efficacy enabled her to learn Tai Chi.

She noted,

Actually, one of the girls in the class I met, she invited me to come so I went and saw them just do the 24 steps and I thought, “Oh my goodness, that’s a lot do to.” Then I thought, “Well, I can learn if it I do a few steps at a time. I can achieve that goal,” so that’s what I did. I got in the beginner’s class and I started doing the Tai-Chi. Like I said, I would get tired and be short of breath; then I would sit down for a minute – just for a minute – and get right on back up and start doing it continuously. I would do it continuously until I got it.

Participants often encouraged themselves through self-talk and indicated that they did not need to rely on others’ support to pursue ongoing activity, particularly when such support involved partnering and participating in physical activity with others. This finding is somewhat consistent with results reported by Thrasher, Campbell, and Oates (2004), who found that emotional support, but not informational or instrumental support, was associated with physical activity. Though the importance of different types of social support appeared to vary, this construct did influence participants’ activity, as would be predicted by social cognitive theory.

Transtheoretical Model

The transtheoretical model (Prochaska, Di Clemente, & Norcross, 1992) conceptualizes behavior change as movement, both progressive and regressive, across a continuum of stages reflecting different levels of consideration or engagement in a given behavior. Results of this study indicate that physical activity development for middle-aged African American women occurs through a similar stage-based process that acknowledges possible relapse or regression to prior stages. Study participants described distinct periods during which they began considering involvement in physical activity, decided to do so, and began being active. These changes took place during the initiation phase of the Physical Activity Evolution model, which appears to encompass the contemplation, preparation, and early action stages of the transtheoretical model. Participants also clearly described routine and ongoing involvement in physical activity as part of the Benefits-Motivation-Execution cycle, which is comparable to the maintenance stage.

Prochaska and colleagues (1992) proposed that ten processes guide individuals through the stages of change. Each of these processes was depicted in the current study. Consciousness-raising was reflected by the participants' increased awareness of information about physical activity. Participants experienced dramatic relief as a result of medical diagnoses and advice that physical activity could assist with management or reversal of symptoms. The process of self-reevaluation was demonstrated by participants' increasing consideration of the personal relevance of activity, while reported commitment to make changes revealed self-liberation. Counterconditioning was demonstrated by women who sought opportunities to exercise when feeling stressed instead of eating or taking their frustrations out on others. Women practiced stimulus control by keeping exercise clothes in their cars and fitness equipment in their homes. Reinforcement management occurred through achievement of self-reinforcing benefits, praise,

compliments, and tangible rewards (e.g., new clothes). Helping relationships developed as the women encouraged others to become involved in physical activity or were introduced to new opportunities by others. Environmental reevaluation was exhibited in participants' concern about how their activity could influence their children's interest in physical activity. Finally, social liberation occurred as participants made new friends and were exposed to new experiences as a result of their physical activity.

Implications

This study has important implications for understanding and potentially influencing physical activity among middle-aged African American women. First, the study underscores the importance of early experiences with physical activity. As noted in the previous chapter, three participants appeared to be naturally inclined or intrinsically motivated to be active prior to adulthood. They noted that their families and/or friends had encouraged these behaviors by participating with them or urging them to do certain activities. Though such patterns of lifelong activity were atypical, other participants also reported lengthy histories of physical activity. Most had been active at their current levels for a minimum of three years and many, including those who had initiated activity within the past six months to a year, reported extended periods of activity in the past as well. These patterns suggest that efforts to promote physical activity among African American girls and young women may have lasting effects, despite intermittent absences from activity. National data indicating trends toward small increases in physical activity levels may reflect these effects, as younger generations of active women maintain activity as they age.

What can be done to increase physical activity participation among sedentary African American women who have already reached middle-age? Study results suggest that a greater

emphasis on the benefits of activity for older women may be helpful. Experiencing benefits was a significant driver of physical activity among women in this study. Many indicated being aware of commonly advertised benefits (e.g., weight loss and reduction in cardiovascular risk factors), but they reported experiencing many more benefits than are typically promoted. They expressed particular satisfaction regarding benefits associated with age, such as increased independence, flexibility, mobility, youthful appearance, and a general ability to remain vital and “age well”. They described physical activity as something done for enjoyment as opposed to a prescription for avoiding illness. Focusing on more desirable, and less medicinal, aspects of physical activity could help enhance its appeal for aging African American women.

Limitations

Several limitations of this study must be noted. One obvious limitation is that, due to the small size and homogeneity of the study sample, the study results cannot be generalized to other populations. This limitation is inherent to the qualitative study design. As recommended by Miles and Huberman (1994), sampling for the study was conceptually guided such that findings would be generalizable to an underlying theory as opposed to a broadly representative population.

A second limitation is that only a third of participants were available to attend the focus groups. Though comments from all participants were desired, unfortunately, one participant could no longer be reached through the contact number she provided and one had relocated from Alabama. Five women did not respond to messages left for them, and three others were unable to attend.

A third limitation is that the sample was not well-inclusive of older women (i.e., those age 65 years and older). This study was intended to investigate the experiences of women at

midlife and beyond; however, women within the higher age bracket who also met the inclusion criteria for activity could not be readily identified. During recruitment for this study, several regularly active women over age 65 were approached, primarily among participants in a weekly exercise class for older adults sponsored by a local senior citizen's center. Yet the majority of these women engaged in dedicated physical activity only once per week and through that class, which consisted primarily of seated exercises with limited cardiovascular impact. They were thus ineligible for the study. Two potential participants over age 65 who did meet eligibility criteria were not available to participate. One did not consent to screening or interview; the other was screened, but could not be interviewed due to repeated scheduling conflicts. When this study was proposed, a plan was noted to recruit and interview women in separate age brackets (i.e., 45-64 years and 65 years and older) to ensure representativeness of experiences if differences between these groups happened to emerge during the interviews. Though the lack of adequate numbers of older women precluded such comparison, data shared by the two participants in this study who were over age 65 was not indicative of a notable difference in experience based on age.

Finally, data from one participant was limited due to technology failure. The digital recorder battery died approximately 25 minutes into her interview, and was not noticed until several minutes later. Unfortunately, a back-up battery was not available. Handwritten notes were used to document the remainder of the interview. Though minimal data were available for analysis, the participant's information was found to be consistent with other findings. A second battery failure later occurred with another participant. However, based upon the initial mishap, replacements were available and quickly exchanged, so the next participant's data was captured in full.

Directions for Future Study

Harley (2005) called for qualitative assessment of process models, including her own, to confirm or refute the steps and constructs deemed relevant or necessary for movement through the process. Accordingly, future research is recommended to further assess the applicability of the Physical Activity Evolution model. Though this study provided support for the model over all, results suggested that the role of physical activity companions may be more complex than originally proposed. Social support was a key factor in influencing women's physical activity development, particularly during adoption of this behavior. However, it appeared that the physical presence of companions was not a necessary component of activity maintenance. Although participants in this study did in fact appreciate and benefit from the support and encouragement of others, social support through shared activity did not appear to be necessary for their ongoing involvement in activity. In future studies, further distinguishing between different types of support could help clarify the importance of this construct for older African American women's physical activity. Additional study is also needed to confirm that the Physical Activity Evolution model is applicable to women age 65 and older. The present study suggests this is the case based on a lack of observable difference between the experiences of the eldest women in this study (both age 66) and the others. However, due to the limited number of women over age 65 in this study, the applicability of the model to that population cannot be determined conclusively. Finally, the model should also be tested among other groups, including men as well as women of other ethnic backgrounds, to determine whether it applies broadly or is relevant only to the experiences of African American women.

Conclusion

Using a deductive qualitative research design, this study examined the experiences of 15 physically active, middle-aged African American women to determine the process by which physical activity was adopted and incorporated into the women's lives as a lifestyle behavior. Data from participant interviews provided support for the applicability of the Physical Activity Evolution model as an explanatory framework for physical activity among middle-aged African American women. The women identified concerns that prompted them to initiate activity, and they described transitional efforts to develop a regular physical activity regimen that was appropriate to their needs and interests. They reported obtaining numerous benefits as they continued being active, and noted that these benefits motivated them to maintain ongoing participation in physical activity. Consistent with the Physical Activity Evolution model, the women indicated that their methods of planning, support from others, and receipt of benefits were driving forces for their progression toward integration of physical activity as a lifestyle behavior.

Though several previous studies have investigated physical activity among African American women, the focus of that research has primarily been on sedentary women. This study makes an important contribution to the existing research literature by describing the experiences of the vastly understudied population of physically active African American women and elucidating the factors that have enabled such women to successfully maintain participation in physical activity as they age. A clearer understanding of the process by which African American women successfully integrate physical activity into their lives may ultimately facilitate the development of more successful programs to increase physical activity levels among women who remain sedentary.

In recent years, increasing attention has been given to the issue of reproducibility in scientific research. Although further validation is needed, by replicating the findings undergirding the Physical Activity Evolution model, this study helps to advance the science related to health behavior change.

REFERENCES

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179-211.
- Agurs-Collins, T., Kumanyika, S., Ten Have, T., & Adams-Campbell, L. (1997). A randomized controlled trial of weight reduction and exercise for diabetes management among older African-American subjects. *Diabetes Care*, 20, 1503-1511.
- American Heart Association. (2009). Women and Cardiovascular Disease – Statistics. Retrieved from <http://www.americanheart.org/downloadable/heart/1236184538758WOMEN.pdf>.
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, 84, 191-215.
- Bandura, A. (2004). Health promotion by social cognitive means. *Health Education and Behavior*, 31, 143-164.
- Banks-Wallace, J., & Conn, V. (2002). Interventions to promote physical activity among African American women. *Public Health Nursing*, 19, 321-335.
- Biddle, S., & Nigg, C. (2000). Theories of exercise behavior. *International Journal of Sport Psychology*, 31, 290-304.
- Brownson, R., Eyler, A., King, A., Brown, D., Shyu, Y., & Sallis, J. (2000). Patterns and correlates of physical activity among US women 40 years and older. *American Journal of Public Health*, 90, 264-270.
- Brownson, R., Eyler, A., King, A., Shyu, Y., Brown, D., & Homan, S. (1999). Reliability of information on physical activity and other chronic disease risk factors among US women age 40 years or older. *American Journal of Epidemiology*, 149, 379-391.
- Carter-Nolan, P., Adams-Campbell, L., & Williams, J. (1996). Recruitment strategies for Black women at risk of noninsulin dependent diabetes mellitus into exercise protocols: a qualitative assessment. *Journal of the National Medical Association*, 88, 558-562.
- Centers for Disease Control and Prevention. (2008). Physical Activity for Everyone. Division of Nutrition, Physical Activity and Obesity, National Center for Chronic Disease Prevention and Health Promotion, Atlanta, GA. Retrieved from <http://www.cdc.gov/physicalactivity/everyone/health/index.html>.
- Centers for Disease Control and Prevention. (2009). *Behavioral Risk Factor Surveillance System Survey Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

- Centers for Disease Control and Prevention. (2009). *Behavioral Risk Factor Surveillance System Survey Questionnaire*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.
- Clark, D., Stump, T., & Damush, T. (2003). Outcomes of an exercise program for older women recruited through primary care. *Journal of Aging and Health, 15*, 567-585.
- Conn, Tripp-Reimer, and Maas (2003). Older women and exercise: theory of planned behavior beliefs. *Public Health Nursing, 20*, 153-163.
- Corbin, C., Nielson, A., Borsdorf, L., & Lauri, (1987). Commitment to physical activity. *International Journal of Sport Psychology, 18*: 215-222.
- Crabtree, B., & Miller, F. (1992). A template approach to text analysis: developing and using codebooks. In B. F. Crabtree & W. L. Miller (Eds.), *Doing qualitative research* (pp. 93-109). Newbury Park, CA: Sage Publications.
- Crespo, C., Smit, E., Andersen, R., Carter-Pokras, O., & Ainsworth, B. (2000). Race/ethnicity, social class and their relation to physical inactivity during leisure time: results from the third National Health and Nutrition Examination Survey, 1988–1994. *American Journal of Preventive Medicine, 18*, 46-53.
- DeBate, R., Huberty, J., & Pettee, K. (2009). Psychometric properties of the commitment to physical activity scale. *American Journal of Health Behavior, 33*, 425-434.
- Denzin, N., & Lincoln, Y. (2000). *Handbook of qualitative research* (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Dunn, M. (2008). Psychosocial mediators of a walking intervention among African American women. *Journal of Transcultural Nursing, 19*: 40-46.
- Duru, O. K., Sarkisian, C., Leng, M., & Mangione, C. (2010). Sisters in Motion: A randomized controlled trial of a faith-based physical activity intervention. *Journal of the American Geriatrics Society, 58*: 1863-1869.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: an introduction to theory and research*. Boston: Addison-Wesley.
- Harley, A. (2005). Physical activity evolution: a grounded theory study with African American women. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses (3176414).
- Harley, A., Buckworth, J., Katz, M., Willis, S., Odoms-Young, A., & Heaney, C. (2009). Developing long-term physical activity participation: a grounded theory study with African American women. *Health Education & Behavior, 36*, 97-112.

- Haskell, W., Lee, I., Pate, R., Powell, K., Blair, S., Franklin, B... & Bauman, A. (2007). Physical activity and public health: updated recommendation for adults from the American College of Sports Medicine and the American Heart Association. *Medicine and Science in Sports and Exercise*, 39, 1423-1434.
- Henderson, K., & Ainsworth, B. (2000). Enablers and constrains to walking for older African American and American Indian women: The Cultural Activity Participation Study. *Research Quarterly for Exercise and Sport*, 71, 313-321.
- Henderson, K., & Ainsworth, B. (2003). A synthesis of perceptions about physical activity among older African American and American Indian women. *American Journal of Public Health*, 93, 313-317.
- Jones, D., Ainsworth, B., Croft, J., Macera, C., Lloyd, E., and Hussain, Y. (1998). Moderate leisure-time physical activity: Who is meeting the public health recommendations? A national cross-sectional study. *Archives of Family Medicine*, 7, 285-289.
- Juniper, K., Oman, R., Hamm, R., & Kerby, D. (2004). The relationships among constructs in the health belief model and the transtheoretical model among African-American college women for physical activity. *American Journal of Health Promotion*, 18, 354-357.
- Kanders, B., Ullman-Joy, P., Foreyt, J., Heymsfield, S., Heber, D., Elashoff, R.,...Blackburn, G. (1994). The Black American Lifestyle Intervention (BALI): the design of a weight loss program for working class African American women. *Journal of the American Dietetic Association*, 94, 310-312.
- Keller, C., Robinson, B., & Pickens, L. (2004). A comparison of two walking frequencies in African American postmenopausal women. *Association of Black Nursing Faculty Journal*, 15, 3-9.
- Kruger, J., Kohl, H., & Miles, I. (2007). Prevalence of Regular Physical Activity Among Adults – United States, 2001 and 2005. *Morbidity and Mortality Weekly Report*, 56(46), 1209-1212.
- Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage Publications, Inc.
- Marcus, B., Dubbert, P., Forsyth, L., McKenzie, T., Stone, E., Dunn, A., & Blair, S. (2000). Physical activity behavior change: issues in adoption and maintenance. *Health Psychology*, 19 (Suppl 1), 32-41.
- Martin, M., Person, S., Kratt, P., Prayor-Patterson, H., Kim, Y., Salas, M., & Pisu, M. (2008). Relationship of health behavior theories with self-efficacy among insufficiently active hypertensive African American women. *Patient Education and Counseling*, 72, 137-145.

- Matteson, M. (1989). Effects of a cognitive behavioral approach and positive reinforcement on exercise for older adults. *Educational Gerontology, 15*, 497, 513.
- McNabb, W., Quinn, M., Kerver, J., Cook, S., & Karrison, T. (1997). The PATHWAYS church-based weight loss program for urban African American women at risk for diabetes. *Diabetes Care, 20*, 1518-1523.
- Miles, M., & Huberman, A.M. (1994). *Qualitative Data Analysis (2nd Ed.)*. Thousand Oaks, CA: Sage Publications, Inc.
- Misra, D. (Ed.). (2001). *Women's health data book: a profile of women's health in the United States* (3rd ed.). Washington, DC: Jacobs Institute of Women's Health and The Henry J. Kaiser Family Foundation.
- Pate, R., Pratt, M., Blair, S., Haskell, W., Macera, C., Bouchard, C....& Wilmore, J. (1995). Physical activity and public health – a recommendation from the Centers for Disease Control and Prevention and the American College of Sports Medicine. *Journal of the American Medical Association, 273*: 402-407.
- Pfieffer, E. (1975). A short portable mental status questionnaire for the assessment of organic brain deficit in elderly patients. *Journal of the American Geriatrics Society, 23*: 433-441.
- Pinto, B., Friedman, R., Marcus, B., Kelley, H., Tennstedt, S., & Gillman, M. (2002). Effects of a computer-based, telephone counseling system on physical activity. *American Journal of Preventive Medicine, 23*, 113-120.
- Prochaska, J., DiClemente, C., & Norcross, J. (1992). In search of how people change: applications to addictive behaviors. *American Psychologist, 47*(9), 1102-1114.
- Prochaska, J., & Marcus, B. (1994). The transtheoretical model: applications to exercise. In R. Dishman (Ed.), *Advances in exercise adherence* (pp. 161-180). Champaign, IL: Human Kinetics.
- Ransdell, L., & Wells, C. (1998). Physical activity in urban White, African American, and Mexican American women. *Medicine and Science in Sports and Exercise, 30*, 1608-1615.
- Roccaforte, W., Burke, W., Bayer, B., & Wengel, S. (1994). Reliability and validity of the Short Portable Mental Status Questionnaire administered by telephone. *Journal of Geriatric Psychiatry and Neurology, 7*: 33-38.
- Rotem, M., Epstein, L., & Ehrenfeld, M. (2009). Does the conservation of resources motivate middle-aged women to perform physical activity? *Western Journal of Nursing Research, 31*, 999-1013.

- Strauss, A., & Corbin, J. (1998). Basics of qualitative research: Techniques and procedures for developing grounded theory, 2nd ed. Thousand Oaks, CA: Sage Publications, Inc.
- Tan, E., Rebok, G., Yu, Q., Frangakis, C., Carlson, M., Wang, T., Ricks, M., Tanner, E., McGill, S., & Fried, L. (2009). The long-term relationship between high-intensity volunteering and physical activity in older African American women. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 64B: 304-311.
- Thorne, S. (2000). Data analysis in qualitative research. *Evidence Based Nursing*, 3, 67-70.
- Thrasher, J., Campbell, M., & Oates, V. (2004) Behavior-specific social support for healthy behaviors among African American church members: applying optimal matching theory. *Health Education and Behavior*, 31, 193-205.
- U.S. Department of Health and Human Services. (1996). Physical activity and health: a report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.
- U.S. Department of Health and Human Services. (2008). Physical Activity Guidelines Advisory Committee. *Physical Activity Guidelines Advisory Committee Report, 2008*. Washington, DC: U.S. Department of Health and Human Services.
- Vallance, Murray, Johnson, and Elavsky (2011). Understanding physical activity intentions and behavior in postmenopausal women: an application of the theory of planned behavior. *International Journal of Behavioral Medicine*, 18, 139-149.
- Welsh, K., Breitner, J., & Magruder-Habib, K. (1993). Detection of dementia in the elderly using telephone screening of cognitive status. *Neuropsychiatry, Neuropsychology, & Behavioral Neurology*, 6, 103-110.
- Whitt-Glover, M., Taylor, W., Heath, G., & Macera, C. (2007). Self-reported physical activity among Blacks: estimates from national surveys. *American Journal of Preventive Medicine*, 3, 412-417.
- Wilcox, S., Bopp, M., Oberrecht, L., Kammermann, S., & McElmurray, C. (2003). Psychosocial and perceived environmental correlates of physical activity in rural and older African American and White women. *The Journals of Gerontology: Psychological Science*, 58B(6), 329-337.
- Wilcox, S., Bopp, M., Oberrecht, L., Kammermann, S., & McElmurray, C. (2005). A qualitative study of exercise in older African American and White women in rural South Carolina: perceptions, barriers, and motivations. *Journal of Women and Aging*, 17, 37-53.

Young, D., Gittelsohn, J., Charleston, J., Felix-Aaron, K., & Appel, L. (2001). Motivations for exercise and weight loss among African American women: focus group results and their contribution toward program development. *Ethnicity and Health, 6*, 227-245.

APPENDIX A

Short Portable Mental Status Questionnaire

1. What is the date today? _____
2. What day of the week is it? _____
3. What is the name of this place? _____
4. What is your telephone number? _____
5. How old are you? _____
6. Where were you born? _____
7. Who is the president of the U.S. now? _____
8. Who was the president before him? _____
9. What was your mother's maiden name? _____
10. Subtract 3 from 20, and keep subtracting 3 from each new number, all the way down.

Education: ___ Less than high school
 ___ Some high school/high school graduate
 ___ Beyond high school

* Allow *one more* error if participant has less than a high school education.

* Allow *one less* error if participant has education beyond high school.

TOTAL CORRECT RESPONSES: _____
(Participant is ineligible if total is less than 8.)

APPENDIX B

Commitment to Physical Activity Scale

The following statements may or may not describe your feelings about physical activity. Physical activity includes a wide range of activities. Examples of these activities are walking, tennis, badminton, yoga, racquetball, football, basketball, cycling, dance, running, swimming, weight training, fitness calisthenics, etc. Please use the following scale to tell me how well each statement describes your feelings most of the time. There are no right or wrong answers. Do not spend too much time on any one item, but give the answer that seems to describe how you generally feel about physical activity.

SD = Strongly Disagree, D = Disagree, U = Uncertain, A = Agree, SA = Strongly Agree

1. I look forward to physical activity.
2. Physical activity is a chore.
3. I do not enjoy physical activity.
4. Physical activity is very important to me.
5. Life is more fulfilling as a result of physical activity.
6. Physical activity is pleasant.
7. I dislike the thought of doing regular physical activity.
8. I would arrange or change my schedule to participate in physical activity.
9. I have to force myself to participate in physical activity.
10. To miss a day of physical activity is a relief.
11. Physical activity is a high point in my day.

APPENDIX C

Interview Guide

- Describe how physical activity fits into your day/week.
Why did you choose this particular activity?
How did you learn how to do it?
- Do you exercise with other people?
How did you meet them?
Describe your relationship with them.
Do you see them outside of the exercise sessions?
- Do you switch around activities?
- Are your activities scheduled?
How?
How far in advance?
When did you start planning it?
- Try to think of a time when something happened during the day and you did not end up doing [activity] even though you planned to. Walk me through that day.
- Describe how you feel when you miss a session.
- What other kinds of things have happened that caused you not to go?
How do you reschedule?
- Does physical activity ever cut into other activities or obligations?
How do you deal with that?
- I would like you to think about when you first became an active woman. Looking back, when would you say you became physically active?
Were you active growing up?
Was anyone in your family active?
Is anyone in your family active now?
How did they influence your experience with physical activity?
- How has your involvement changed since you first started?
- Were there any significant changes in your life around the time you started exercising regularly?
- What goals do you set for yourself related to physical activity?
When did you start setting goals for yourself?
How did you choose which goals to focus on?

Have you met any of the goals that you set for yourself?
How did that affect your physical activity program?
Did you reach any milestones/goals that you hadn't anticipated at first?

- Have you noticed any benefits from exercise?
When did you first start noticing benefits?
How did that impact your experience with physical activity? **OR**
How did you keep yourself going until you started noticing benefits?
- How does being physically active affect the way you feel about yourself?
How has it changed the way you feel about yourself?
- Would you say that physical activity has changed your life?
YES: How so? Would you say it has made you a better person?
NO: What kind of impact has physical activity had on your life?
- Describe how your body felt (physically) when you first began to [activity].
- Describe how your body feels now when you [activity].
- Describe what you thought about while you were first doing [activity].
- Describe what you think about now when you [activity].
- Can you think of a time when you started a particular physical activity but ended up quitting? Describe that time to me.
Tell me about when you quit the activity
When did you pick it back up?
How did you decide it was time to start being active again?
How did you choose the activity?
- How is your current experience with physical activity different from your past experiences when you were not participating regularly?
- How often have you cycled from inactive to some activity to regular activity?
What prompts the change?
- What kinds of barriers did you have before?
- How are things different now?
- How has your environment influenced your activity?
(*Added following pilot interview).