

FACILITATORS, BARRIERS, AND COMPONENTS OF A CULTURALLY TAILORED AFTERSCHOOL PHYSICAL ACTIVITY PROGRAM IN PREADOLESCENT AFRICAN AMERICAN GIRLS AND THEIR MOTHERS

Objectives: Traditional physical activity (PA) programs have not been effective in increasing PA in African American girls. Currently, there is limited information regarding the components of PA programs that drive participation in African American girls. The purpose of our investigation was to describe the facilitators, barriers, and components of a culturally tailored afterschool PA program that will potentially inspire the participation of African American mother-daughter dyads.

Methods: Six focus groups ($n=12$ mother-daughter dyads; daughters, 7–10 yrs in age) were conducted between March and May 2012. Focus group semi-structured interviews were transcribed, coded, and systematically analyzed using NVivo.

Results: Mothers reported a preference for non-traditional (dancing, household chores) types of PA. While daughters preferred to participate in both dance-based and traditional types (walking, riding bikes) of PA. Participants felt that the use of a culturally tailored dance program would be appealing because it highlights the cultural and historical legacy of the African American culture. Mothers wanted programs that would allow them time to spend with their daughters. Top three dance styles that mothers wanted to participate in were African, hip-hop, and Salsa/samba, while daughters reported that they would enjoy participating in hip-hop, African, and jazz. The most common responses given for resources needed for participating in a culturally tailored afterschool dance program were the location of the program, transportation, and childcare for siblings.

Conclusions: Our investigation highlights some cultural factors related to facilitators

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and barriers of PA that should be addressed in designing PA studies for African American girls and their mothers. (*Ethn Dis.* 2014;24[1]: 8–13)

Key Words: African American, Mother-Daughter Dyads, Physical Activity, and Qualitative Study

INTRODUCTION

Current physical activity (PA) guidelines recommend that school-aged children (>5 years) should engage in ≥ 60 minutes of daily moderate-to-vigorous PA (MVPA).¹ Based on objective assessment of PA, approximately 42% and 8% of 6–11 and 12–15 year old youth, respectively, met current PA recommendation.² As age increases, reported minutes/day of PA decreases. This is an alarming trend since PA levels have been shown to track from childhood into adulthood.^{3,4} Additionally, African American girls are more likely to report not participating in any form of PA over the past seven days.^{5,6} The low prevalence of PA in African American girls and women has been associated with a higher prevalence of obesity and diabetes risk factors, illustrating the critical need to develop effective strategies to improve PA levels in this population.^{7,8}

Traditional PA programs (eg, walking, afterschool sport programs) have not been effective in increasing PA in minority children.⁹ For PA interventions to be successful among minority children, they must enjoy participating in the program's activities.¹⁰ Currently, there is limited information regarding components of PA programs that drive participation in minority children. In recent years, a large number of culturally tailored interventions have been

designed to increase PA among minority girls.^{11–13} However, there is little insight on what makes these types of programs more attractive than traditional PA programs. In African American girls, researchers have examined culturally tailored PA interventions, such as Afro-centric dance, and found no significant change in PA levels.¹⁴ The static PA levels could be explained by a lack of parental participation.

In the African American culture, parental (particularly maternal) health behaviors strongly influence children's health behaviors, highlighting the critical need for studies exploring methods to enhance both parental and child health behaviors.^{15,16} Barr-Anderson et al found in their review of PA interventions with a family component targeting African American adolescent girls that the incorporation of key family members (primarily mothers) show promise in increasing PA in African American girls.¹¹ Therefore, it is possible that the parent-child relationship could moderate the effectiveness of a behavioral intervention. In order to develop such an intervention, critical information is needed regarding the structural and contextual components of a PA program that would interest African American girls and their mothers.

Interventions that aim to change contextual aspects of a child's life may be more effective than individually targeted interventions. In previous focus group studies, parents (mostly Caucasian) indicated that barriers for adhering to PA programs for their children include weather, siblings, time, neighborhood safety, and lack of affordable and accessible recreation facilities.^{17,18} Very little is known about African

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The primary objective of our investigation was to describe the facilitators, barriers and components of a culturally tailored afterschool dance program that will potentially inspire the participation of African American girls and their mothers.

American girls' and women's interests, motivations or challenges in participating in an afterschool program. In addition, there is no information on the potential characteristics of PA interventions that will enhance the participation and retention of African American girls and their mothers. The primary objective of our investigation was to describe the facilitators, barriers and components of a culturally tailored afterschool dance program that will potentially inspire the participation of African American girls and their mothers.

METHODS

Participants

Participants were recruited from afterschool programs within the greater Springfield, Massachusetts area. Participants were eligible for the study if the parent identified the daughter as African American/Black and between the ages of 7–10 years on the date of the focus group meeting. Mother was defined as the primary female role model who resided with the girl. Due to the formative nature of the study, there was no age restriction for mothers. A total of 16 dyads responded to the study advertisement and were scheduled to participate in the focus group meetings. Four dyads did not show up for the

scheduled meetings, for a final participant sample of 12 dyads, who were separated into six (daughters, $n=3$; mothers, $n=3$) focus group meetings. Mothers and daughters provided informed consent and assent, respectively, to participate in this study. University institutional review board approved the study.

Focus Group Meetings Procedure

Focus group meetings were held in March through May of 2012. Demographics and socioeconomic status were determined using a structured questionnaire. Participants standing height and body weight were measured twice to the nearest millimeter (direct reading stadiometer) and to the nearest .1 kg (digital scale), respectively. Participants' waist circumference was measured intersecting the umbilicus using a Gulick tape. Girl's and mother's PA level were assessed with the Physical Activity Questionnaire (PAQ-C) and the short format of the International PA Questionnaire (IPAQ-SF), respectively. The PAQ-C (10 questions) was developed to assess general levels of PA in children. In 8–16 year old elementary school age children of diverse background, PAQ-C has been shown to provide reliable ($r>.70$) and valid ($r=.39$; Caltrac accelerometer) measures of PA.^{19,20} The IPAQ-SF was designed to assess adherence to national PA guidelines during the previous 7 days;²¹ IPAQ-SF (9 questions) examines time spent walking, vigorous PA, moderate PA and sedentary PA and has been shown to have a reliability of approximately .65 in a diverse sample of 1974 adults across 12 countries. Compared to Actigraph accelerometers, IPAQ-SF has a validity of .30 ($n=781$; 95% CI .23–.36).

Following the assessment protocol, dyads were separated into individual groups (separate for mothers and daughters) in order to minimize biased responses. Within each group, semi-structured questions were used to ensure consistency across group meetings while

allowing participants to provide their unique opinions and attitudes toward PA. The questions were probing in nature in order to inform the development of a culturally relevant intervention. Two researchers moderated each focus group meeting.

Statistical Analyses

All focus group sessions were audio-taped and transcribed verbatim by two researchers. A third member of the research staff then reviewed transcripts for accuracy. Transcripts were thematically analyzed using a three-stage process.²² The first step involved importing text into NVivo (Version 10, QSR, Southport, UK). The transcripts were read and coded by two pairs of researchers (separate pairs for mothers and daughters). Marked codes were then extracted as free nodes into a new database. Second, an additional set of researchers reviewed all transcripts. If any differences were observed, a third researcher settled differences between the two coders and a consensus were reached. Third, codes were then ranked, summarized and used to develop thematic codes and definitions (Table 1).

RESULTS

All the participants self identified themselves and their daughter(s) as either African American or Black. On average, the mothers had a BMI of 32.9 ± 6.2 kg/m² with a waist circumference of 108.5 ± 22.4 cm and the daughters (aged 9 ± 1.4 years) had an age- and sex-adjusted BMI percentile of 78.9 ± 29.3 . The mothers engaged in 176.7 ± 99.4 minutes per week of MVPA. The girls had a PAQ-C composite score of $2.4 \pm .5$ (with 1 indicating low PA level and 5 indicating high PA levels). The PA data for the mothers' and daughters indicate that they were both moderately active. Three themes emerged from the focus group meetings.

Table 1. Focus group thematic definitions and results on facilitators and barriers of physical activity (PA)

Theme	Definition	Results	
		Mothers	Daughters
Constructs of general PA	Attitudes toward overall PA. These could be facilitators/ barriers regarding participation in PA, or mother's/daughter's perception of family's PA.	Positive attitudes of PA – fun, something that makes you feel good Negative attitudes of PA – tiring, boring, work	Positive attitude of PA – fun Negative attitude of PA – none stated
Types and support of PA	Specific activities that were identified by the dyads in response to questions regarding types of PA. Perception of PA support and its impact on PA participation.	Preferred non-traditional activities (dancing, household chores) Realize that their behavior influences daughters' PA level and preference	Preferred dance-based PA, walking, riding bikes Felt that mothers PA influenced their choice to be physically active
Components of culturally-tailored interventions	Components of a dance program that would either promote or deter participation. Motivation for dyads participation in a culturally-tailored dance program and resources needed to limit attrition.	Top 3 dance styles – African, hip-hop, and Salsa/samba Motivation for participation – want daughters to learn about African American heritage, bonding time with daughter(s) Barriers – scheduling or time conflicts, childcare needs Resources needed – convenient location of program, transportation, childcare for siblings, homework tutoring, snack/meals for daughter	Top 3 dance styles – hip-hop, African, and jazz Motivation for participation – pride in African American culture, bonding time with mother Barriers – none stated Resources needed – homework tutoring

Constructs of General Physical Activity

Participants were asked to indicate what came to mind when they thought of PA. Most mothers (*n*= 7) stated they thought of something that made them feel good, something fun and enjoyable. Mothers made comments such as, "Something that is fun and would make me feel good." and "Movement, energy, something that will make me feel good." Additionally, PA gave them a feeling of accomplishment. For example, "I do like to challenge myself from time to time and I'm always surprised by what I can do." A couple of negative comments were made in regards to PA connotation. One mother stated, "Just the term physical activity makes me tired. But I know that it's not a tiring task, but just the way it's worded." Another mother stated, "When I think of physical activity I think of work. That you have to put forth a lot of effort." The most predominately negative perception of PA among mothers (*n*=10) was related to the monetary expense of hair care and maintenance. Daughters (*n*=12) indicated that when they

thought of PA, they generally thought of something fun and made comments such as, "Something that is fun and would make me feel good. I also think it would give me good exercise."

Types and Support for Physical Activity

The types of PA that mothers enjoyed were categorized as either non-traditional or traditional. The majority of mothers (*n*=9) seemed to prefer non-traditional (ie, dancing or household chores) forms of activity. Mothers made comments such as, "The ones that I really like doing: dancing, listening to music and dancing with my children," or "cleaning while listening to music." Even when they mentioned that they preferred participating in more traditional types (ie, structured exercise class, sports, walking) of PA, examples favored structured PA that involved dancing. One mother reported, "I do like the exercise classes that involve dancing like Zumba or any other type of organized, dance-type, exercise classes." Similar to mothers, daughters (*n*=11) reported a preference to partic-

ipate in either dance-based or traditional types (ie, walking, riding bikes) of PA.

Mothers were asked if they thought that their social support for their child's PA had an impact on the child's PA level. All participating mothers said they sought opportunities to participate in activities with their daughter: "If she sees me doing it, she generally wants to try it. She might not stick with it, but at least I know it's something that she's got some interest in and we can tweak it so she can be more interested in it as she sees me doing it." When the same question was asked of daughters, the majority of them felt that their mother's support influenced their ability to be physically active. They also thought that seeing their mother being physically active influenced whether or not they wanted to be physically active.

Components of Culturally Tailored Intervention

The second portion of the focus group meeting centered on the use of culturally tailored dance program to improve PA levels. Mothers (*n*=12) felt

that a culturally tailored dance program would be appealing because they wanted to try something new with their daughter, and such a program would highlight cultural and historical legacy of African American culture. One mother stated, "It's physical and also incorporates heritage. My daughter's at an age where I'm trying to teach her about who she is and to be proud of that, so I think that we can incorporate physical aspect into who she is as a young African female." Similarly, daughters stated, "It's a way you can express yourself. Also, because I love the African culture." All mothers indicated that they wanted to find programs that would allow them time to spend with their daughters. As one mother stated, "I want to spend more time with my daughter doing physical activity. It would be a great time to bond. We will have fun together doing something positive." Others indicated that it would be a good bonding experience. "Doing an afterschool dance program is not just a new activity. It's not your typical, sign up for soccer; you drop off and pick up your child. It's something more creative, a different kind of idea that seems like it would be a good way to fill the day." All girls reported they wanted to participate in a culturally tailored afterschool dance program because they wanted to spend time with their mothers. When asked what types of dance programs they wanted to participate in, the top three styles mentioned by mothers were African ($n=12$), Hip-hop ($n=12$), and Salsa/samba ($n=7$). The daughters reported that they would most enjoy Hip-hop ($n=12$), African ($n=10$), and Jazz ($n=8$).

Participants were asked what would prevent them from participating in a culturally tailored dance program. For mothers, the overriding concern was scheduling and time conflicts: "I tend to have issues with afterschool things during the week because I go to school two evenings a week for now. So sometimes it's either, I have school on

the days that there are afterschool things held, or I have school work, or I'm very tired, or there are issues with supper, who's going to cook supper, or what are we going eat, and I don't know, sometimes I don't get to do things with her that I would like to have her do with regards to physical activity because of that." Daughters, on the contrary, did not feel there were any factors that could prevent them from participating. Mothers were asked to list resources that would make it easier for them to participate in a culturally tailored afterschool dance program. The most common responses were location of the program, transportation to and from the program, and childcare for siblings during the program.

DISCUSSION

Since 2007, a total of 22 afterschool/community-based studies have examined the impact of PA in children and youth. Of these studies, 10 focused on African American children.^{14,23-31} The majority of the studies reported little to no significant impact on altering PA levels. In minority children, researchers have indicated that cultural factors need to be considered when designing effective PA studies.^{9,32-34} However, the cultural components that should be targeted in PA interventions that involve both the child and the mother are currently lacking in the scientific literature.

In conducting these focus groups, we first investigated the participants' general perception of PA. Overall, the girls in our study had positive perceptions of PA, particularly PA that involved dancing, compared to traditional PA. In 2006, Grieser et al examined PA attitudes, preferences, and practices of girls and stated that girls reported activities such as basketball and running as their favorite activities.³⁵ However, in a subgroup racial analysis, the researchers reported

that the African American participants listed dancing as their favorite activity.³⁵ On the other hand, mothers in our study seemed to gravitate toward non-traditional PA pursuits such as activities of daily living and activities that involved music. Their affinity toward non-traditional PA could stem from their negative attitudes toward traditional PA. Instead, they valued PA they acquired during the course of doing household chores; several of the women in our study commented that they liked to dance to music while doing household chores. Although participants had a positive perception of PA, some negative connotations associated with PA were highlighted; some African American mothers associated the term "physical activity" with boring, tiring, and uncomfortable.³⁶ In our investigation, the mothers' negative connotations regarding PA were not shared by the daughters. In addition, mothers agreed that they limited their PA pursuits on days following a visit to the hairdresser. This trend has been observed in African American women and girls, indicating that hair care is a consistent PA barrier in this population.^{32,37-40}

In general, children's perception of activity enjoyment has been correlated to their willingness to participate in the activity.^{41,42} In our study, participants viewed dance as a fun activity they would enjoy participating in afterschool. While other researchers have indicated that perceived competence seem to be correlated to PA participation,^{41,43,44} this relationship did not hold true for either the girls or mothers in our study. Both girls and mothers did not believe that their inability to do or learn any dance styles/moves would impact their willingness to participate in a dance study. However, participants stated that their enjoyment of the dance styles would significantly impact their interest in the program.

From this formative research, we learned that African American girls wanted a dance program that focused

on jazz, hip-hop, and African style dancing with up-beat music. In a 2011 study by Jago et al, researchers reported that music (up-tempo, current music) and style of dance (modern/urban forms) have an impact on girls' willingness to attend afterschool PA sessions.⁴⁵ In our study, the girls also wanted a program that involved their mother. Several of the girls reported that their mother's perception and involvement in PA had an impact on their interest in participating in a dance program.

When mothers were asked what they looked for in a program, they indicated they wanted something enjoyable to do with their daughter(s). They sought programs that could enhance their daughter's cultural heritage, academic performance (ie, homework tutoring), and overall health, rather than solely emphasizing weight issues. Mothers also wanted their daughters to be exposed to positive mentors that look like them. Consistent with observed attitudes in existing literature, mothers reported that resources they would need to reduce their attrition are childcare, snacks/meals, and transportation.^{36,46} Due to the lack of time to prepare dinner for their family, the mothers indicated that they would be resistant to participate in a program that ended after 6:30 PM.

Our study has several strengths; most importantly, it provides information about the African American mother-daughter dyad perception of PA and the components needed to engage them in a culturally tailored PA program. Based on our findings, we have designed an intervention that has the following components: 1) culturally tailored dance program that focuses on hip-hop, jazz, and African; 2) African American cultural heritage lesson plans; 3) weekly newsletters that focus on overall health; 4) homework tutoring; 5) healthy snacks and family meals, and 6) mentoring with African American dance instructors. Some limitations include the lack of direct measures of PA and the small, convenient sample size.

Despite these limitations, the findings provide insightful qualitative information that can help researchers better design effective PA interventions in African American mother-daughter dyads.

CONCLUSION

In minority children, particularly African American girls, cultural factors need to be considered when designing effective PA studies.^{9,32-34} Our investigation highlights some of the cultural factors that should be addressed in designing studies for African American girls and their mothers. In designing effective interventions, researchers need to be cognizant of the needs of the girls and their primary caregiver.

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