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Factors Affecting Rural Women's Involvement in Physical Activity in Ghana

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Factors Affecting Rural Women's Involvement in Physical Activity in Ghana

Abstract

A qualitative study approach was used to explore the factors affecting rural women's involvement in physical activity in Ghana. Most prior research has been done in African urban areas thus, neglecting the rural areas. Purposive sampling and a semi-structured interview method were used to interview nine women aged 40-60 years living in three rural areas in the central region of Ghana. The interviews were conducted by phone, translated, transcribed, and then coded using NVivo software package. The constant comparative method was used to analyze the data. The data presented eight enablers and five barriers to physical activity involvement for rural Ghanaian women. Findings revealed that rural women get a fair amount of physical activity from their traditional occupations, household chores, and community involvement but lack involvement in organized physical activity for leisure and fun. By introducing rural women to more varied physical activity options, they could gradually replace the physical activity they traditionally gain from their livelihood as they begin to age out of them in middle adulthood.

Factors affecting rural women's involvement in physical activity in Ghana

Introduction

The World Health Organization (WHO) estimates that 28% of adults aged 18 years and over were not active in 2016 which means that they did not meet the global recommendations of at least 150 minutes of moderately intense physical activity (PA) per week (WHO, 2020). As a result, the WHO recognized PA among the global health priorities of the 21st century. WHO defines PA as “any bodily movement produced by skeletal muscles that require energy expenditure including activities undertaken while working, playing, carrying out household chores, travelling, and engaging in recreational pursuits (n.p). According to WHO (2018), popular ways to be active include walking, cycling, sports, and other recreational activities, which can be done at any level of skill and enjoyment. They further stated that PA can result in general health benefits such as improved muscular and cardiorespiratory fitness, bone health, weight control, and a reduction of hypertension, stroke, and some forms of cancer.

Opposite to these benefits, when women lack adequate PA, they are at an increased risk for obesity and developing chronic diseases such as coronary heart disease, certain cancers, Type 2 diabetes, and others (Tuakli-Wosornu et al., 2014). Research indicates that obesity is on the rise in Ghana. Wegmüller et al. (2020) estimated that 24.7% of Ghanaian women are overweight and 14.3% are obese and that these women are more likely to be wealthier, older, and urban. Nearly two decades ago, Amoah (2003) and Biritwum et al. (2005) found that obesity was more common among women and urban dwellers than in male and rural inhabitants in Ghana. In addition, obesity was found to increase with age up to 64 years (Amoah, 2003). More recently, Minicuci et al. (2014) similarly found a relationship between low PA and obesity in Ghana. They suggested that low PA and obesity increased with advancing age. It is, therefore, imperative to also assess and understand the involvement of rural poor populations in PA because they are also predisposed to the health effects associated with the lack of PA.

Many rural populations tend to inadvertently exercise through physical labour and manual activities (Mogre et al., 2012). For example, in Ghana, many rural peasant farmers still use manual labour to till, weed, and harvest their crops. Children also walk for relatively long distances on their way to school and women look after their families; hence, they engage in PA related to household chores. Some women also engage in peasant farming. This unintentional (i.e., work-based) PA that the rural populations in Ghana engage in is gradually becoming rarer because of rising incomes and the infiltration of urban culture into rural areas (Assah et al., 2011). Commercial farming in the rural areas is now mostly mechanized and human-powered transportation has been reduced due to the availability of motorcycles as the dominant form of rural transportation for households (Taiwo & Kumi, 2015).

Studies continue to show that women are a high-risk demographic when it comes to sedentary lifestyles (Baruth et al., 2013; Healy et al., 2011); hence, PA needs to be encouraged in women's everyday lives in rural areas. Although urban areas in Ghana are often the hardest hit when it comes to lack of involvement in PA, the problem has spread to the rural areas, and therefore, there are factors behind this recent phenomenon that needs to be explored (Balis et al., 2019; Tuakli-Wosornu et al., 2014). Given massive cultural change and urbanization, it is imperative that we understand more about the PA patterns of women living in rural areas.

Theoretical Framework: An Ecological Model for Health Promotion

The ecological model for health promotion developed by McLeroy et al. (1988) is the theoretical framework that guided our research. These authors developed the ecological model for health promotion through their research examining health promotion programs. Their work suggests that both individuals and their social environments be targeted for health promotion interventions as well as for research analysis (McLeroy et al., 1988).

McLeroy et al. (1988) referenced Urie Bronfenbrenner's (1980's) ecological model, which identified that multiple systems of influences impact a child's development. According to Rural Health Information (2020), using an ecological perspective is essential because it helps understand the range of factors that influence wellbeing. Using the ecological model for health promotion, also helps to identify opportunities to promote PA by recognizing an individual's gender, beliefs, culture, attitudes, behaviour (sedentary and active), and social environment (availability of PA equipment and facilities), as well as other factors that may influence one's ability to be sufficiently physically active. The ecological model for health promotion has been used in a few studies on physical activity (Marconnot et al., 2019; Skowron et al. 2008); however, we could not find any researchers who utilized it in research situated in the African context.

The Barriers to and Enablers of Physical Activity

Aikins et al. (2014) reviewed the socio-cultural and socio-economic context of Africa's chronic disease burden. They reported a connection between culture and physical exercise. Considering that similar cultural cues likely influence the degree of PA of Ghana's rural women, these findings are worth exploring. Interestingly, Aikins et al. (2014) also found that in Pan-African settings, PA levels are linked to occupation. Rural farmers, they assert, engage in strenuous PA as part of their daily work. They also found that some women living in urban areas in Africa have PA as part of their working lives in occupations such as street hawking, domestic servitude, or manual labour. According to these researchers, available data on PA makes rural-urban distinctions as well as distinctions between high PA among informal sector workers and low PA among salaried sedentary workers in urban areas. Based on the data presented the urban poor was less likely to be engaged in PA. Ghanaian women fell into the category of under-resourced, thereby deprived of organized opportunities to exercise.

Cultural factors also affected the possibility that a woman in an African setting will be engaged in some meaningful PA. Dake et al. (2010) conducted a cross-cultural inquiry in Ghana that compared PA in urban and rural areas. They found obesity as a correlate of lack of PA. They also learned that being fat in the African context is a mark of beauty for African women. Hence, being married is often associated with obesity because the society in both rural and urban Ghana does not view being overweight and obese in a negative light or in the context of the disease risk it may pose. Men saw fat women as beautiful, so there is no incentive to slim down. Their study reported that this trend was changing gradually with increasing urbanization because more people have access to health information that suggests that excess weight can lead to chronic diseases. However, the fact that rural women engage in many varieties of manual labour, such as weeding or walking for long distances, does not overshadow the fact that they do not participate in systematic and organized PA. In addition to culture, Dake et al. (2010) further associated the level of education with the possibility of urban women engaging in PA. In their study, women with more education tended to exercise more to lose weight because they knew the health benefits of PA. The women with less education viewed physical exercise as athletic; hence, not part of their essential lifestyles.

Physical Activity Patterns and Perceptions of Urban and Rural Inhabitants

This section discusses how PA is perceived, recognized, and acknowledged in rural and urban areas as well as comparing the prevalence of some chronic diseases in urban versus rural settings. Sobngwi et al. (2002) found a relationship between PA and obesity, hypertension, and diabetes in urban and rural Cameroonians. They evaluated and compared PA patterns of urban and rural inhabitants and obesity, diabetes, and hypertension rates. They found out that hypertension was higher in women than in men, and it was higher in urban women than rural women. Also, urban dwellers had lower levels of PA and lighter occupational PA than rural dwellers. Finally, the researchers concluded that obesity, diabetes, and hypertension prevalence is higher in urban inhabitants compared to rural ones. With the increase in urbanization and mechanization in Ghana resulting in lowered PA levels, rural women may soon follow this trend toward hypertension and diabetes due to reduced PA.

Tuakli-Wosornu et al. (2014) are among the authors whose work specifically targets Ghana. They conducted a pilot case study using a mixed-methods approach exploring the association between the perceptions of PA, health, and PA behaviours as factors that affect the involvement of Ghanaian women in PA. The researchers used a convenience sample for a self-administered questionnaire and focus group discussion. As pointed out earlier, these factors are increasingly present in rural settings, and they affect the extent to which rural women reported PA an essential aspect of their lifestyle. Participants described their PA occurring solely within the context of their daily activities, such as housework. Thus, they rarely utilized systematic physical activities such as organized gym time or a morning jog around the neighbourhood.

Some of the women perceived PA as a form of male professional athleticism (Tuakli-Wosornu et al., 2014); hence, they only took an interest in adult group PA. The significant finding in this research is that most of the respondents indicated a lack of enough exposure to meaningful PA. The reason was that they either “cannot find the time” due to work and family obligations, or they “do not have a facility.” These were identified as the top barriers to PA. They concluded that motivators of PA in urban Ghanaian women are related to their perceptions about it, behaviours, and health reasons. These factors are peripherally related to the ones examined for rural Ghanaian women because they are relevant in designing a fitness program that fits rural cultural orientations.

Methodology

An exploratory qualitative design was utilized for this study. Qualitative research was chosen for this study because it can be used to gain a deeper understanding of a situation and to understand the human experience (Jackson et al., 2007), in this case, women’s PA in rural Ghana. This study was guided by the following research question: What are the factors which influence rural women’s involvement in physical activity? The following sub-questions helped focus the study:

1. What are the barriers and enablers that shape the participation of Ghanaian rural women in physical activity?
2. How do the factors identified above intersect with poverty, gender, and home lifestyle to affect the involvement of Ghanaian rural women in physical activity?
3. How can the factors identified as barriers to physical activity be navigated, removed, or progressively turned into enablers of physical activity?

The participant inclusion criteria for the study were threefold: 1) women living in rural Ghana, 2) aged 40-60, and 3) willingness to participate in an interview. The data for this study were collected

via telephone because of the COVID-19 travel restrictions in place at the time. Ethical approval for this research was granted by the Memorial University’s Institutional Review Board, the Interdisciplinary Committee on Ethics in Human Research (ICEHR 20210672-HK). Additionally, to show respect to the Chiefs and Assembly Members of the communities to be used, a letter was sent to the leaders to ask for permission before data collection began. Informed consent was obtained from each participant before the interview began.

The number of participants was not set ahead of time, instead, participant recruitment and data collection continued until data saturation was achieved (Guest et al., 2006). The sample for this study consisted of nine women between the ages of 40 to 60 years who live in three different rural communities in central Ghana in the districts of Gomoa West, Ajumako Enyan Essiam, and Ekumfi. The average age of the participants was 45. Table 1 details the demographics of the sample.

Table 1

1 *Demographics of the Study Participants*

Pseudonym	Age	Marital status	# of Children	Education	Religion	Occupation and # of years	Days of Work /Week	Annual Income in Cedi
Esi (E)	46	Divorced	2	Degree holder	Christian	Teacher (22)	5	3800
Abena (AB)	40	Married	1	Vocational training	Christian	Decorator (10)	3	N/A
Efuah (EF)	46	Married	6	Jr. High	Christian	Farmer Trader (25)	6	7800
Egyirwaa (EG)	41	Divorced	5	Jr. High	Christian	Farmer (14)	5	7800
Fynnba (F)	60	Divorced	6	Grade 3	Christian	Farmer (38)	5	N/A
Asantewaa (AS)	45	Divorced	5	Grade 3	Christian	Farmer Trader (30)	6	N/A
Rahmat (R)	40	Married	6	Sr. High	Muslim	Trader (15)	N/A	2400
Khadija (K)	40	Married	3	Jr. High	Muslim	Farmer (20)	3	6000
Hawa (H)	53	Widowed	3	Form 4	Muslim	Farmer Trader (15)	N/A	N/A

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The interviews were audio-recorded on two electronic devices and notes were also taken during the calls. The semi-structured interviews were anticipated to be approximately 60 to 90 minutes in duration, but most interviews lasted for 40 to 45 minutes because of the difficulty in maintaining a phone connection to Ghana. The researcher used an interview guide to conduct the interviews (Patton, 2015). This guide consisted of seven topic-based question areas with sub prompts that allowed the interviews to be conducted in a semi-structured dialogic format but ensured all the participants were asked about the same topics. The topics covered in the interviews included 1) participant demographics, 2) participant’s knowledge and practice of PA, 3) the involvement of family and friends in PA participation, 4) the involvement of school and community in PA participation, 5) the involvement of religious groups in PA participation, 6) participants’ perceptions of facilitators of and barriers to PA participation, and 7) participants suggestions to overcome barriers to PA participation. The interviews were conducted in Fanti, a local dialect. The interviews were then translated to English during the transcription process with diligence to ensure

the participant's original meaning was maintained (Patton, 2015). Following each interview, the first author completed a field journal entry by reflecting on issues, thoughts, and themes that arose during the interview.

In addition to following Patton's (2015) guidelines on transcription, the constant comparative method was used to analyse the data. NVivo was used for coding by both researchers. The first author coded all the data independently and then both authors together compared the codes, categories, and concepts generated from each participant's data, between different participants, as well as between living situations and communities (Glaser and Strauss, 1967). Details on age, ethnicity, educational level, occupation, marital status, and annual income were sub-coded as demographics. We paid critical attention to the research questions and first coded the data for barriers and enablers that shaped the participation of Ghanaian rural women in PA. From there, codes were further distilled and shaped into themes.

Findings and Discussion

This section discusses four main themes that we determined from the findings: 1) life cycle and PA involvement, 2) the community's role in providing PA avenues, 3) the role of religious groups in promoting PA involvement, and 4) how organized PA can be established and maintained. Throughout the discussion, we situate the participants' voices and highlight the enablers and barriers they identified. Finally, some of the implications of the findings such as recommendations for PA programs and the limitations of the current study and future research considerations are discussed.

Theme One: Life cycle and PA involvement

There were three life stages in the lives of these rural women who participated in the study: childhood, adulthood, and middle age.

Childhood

In their childhood and youth years, the women's participation in physical activity was enabled by physical education (PE) and sport. All nine participants stated physical education was a part of their school curriculums. Seven participants mentioned they had been involved in school sports. During their schooling, they participated in soccer, running events, jumping, throwing balls, and traditional games like "ampe"¹, sack race, lime, and spoon. Webster and Suzuki (2014) found various PA opportunities that children gain in their school settings. They can engage in sports and games and participate in break-time activities such as arranging their desks for class.

The participants described their involvement in PE and school sports. Some shared their experiences of continuing in some of these activities after they finished school until they reached adulthood. Abena learned basketball in school and then joined a team after her junior high school education. Esi mentioned that she, "joined the cadets in training college because I was an athlete in high school." As a barrier, like Kinsman et al. (2015) in most of the participants' schools, the sporting facilities were mostly used by boys and much less often by girls.

¹ Ampe is a simple but energy-driven game played by school-age children. It originated from Ghana and played in other neighbouring countries. It is played by two or more people and requires no equipment. The leader and another player jump up at the same time, clap and thrust one foot forward when they land.

In childhood, the participants were also introduced to two other enablers of PA: household chores and festival times. Asantewaa described that her girls “do help me a lot they fetch water, wash bowls. For household chores the children are great help.” Some household chores involve strenuous PA such as fetching water, sweeping, pounding fufu², and disposing refuse. As a cultural norm in South Africa, Kinsman et al. (2015) found that girls are less likely than boys to gain exposure to organized physical activity programs in rural areas due to cultural factors such as girls' roles being perceived to be in the kitchen.

Festival time enables girls and women's PA through organized events. Participants mentioned the festival time as the only occasion whereby their community organizes opportunities for them to engage in physical activity. Participants specifically mentioned the following activities: walking, jogging, dancing to brass band and drums, completions in “oware³”, “ludo⁴”, draft, “ampe”, sack race, soccer games, musical chair, cross country running, and cooking competitions. In summary, this life stage introduces girls to PA and the various “acceptable” ways girls can engage in PA without them really being conscious of it.

Adulthood

The next stage is the beginning of the participants' occupational and married lives from the ages of early 20s and late 30s. This stage can be seen as the most active years of their lives. During this time, their PA was enabled by their occupation, household chores, and participation in communal labour. Edusah and Antoa (2014), in their study on the socio-economic contribution of small-scale rural industries in Ghana, suggested that “about two-thirds of Ghana's population lives in the rural areas where agriculture is the main occupation” (p.161).

Six out of nine participants mentioned farming as their occupation. Most of them rely on farming to feed their families as well as raising funds by selling some of their harvest. They plant their crops on two to four acres. Some of the crops they cultivate include cassava, yam, plantain, maize, vegetables, cacao, and palm nuts. They farmed at three to six days a week. The participants weeded, cultivated, and harvested their crops with little or no help from any technology or mechanization.

Querying their PA further, participants were asked if they use forms of transportation like cars, motor bikes, or bicycles to travel to their farms. Khadija said, “I walk to the farm. There are no access roads for a car, so I walk.” Asantewaa confirmed, “I don't use a car, I walk.” Hawa responded, “I can take a car but taking a car will not help my health, so I do my best to walk.” For some of the participants, walking to the farm totaled six kilometres per day. One participant who identified her occupation as a trader, prepared kenkey and sold it. The preparation of kenkey is strenuous, from putting the maize in water to carrying it to be grinded to cooking the kenkey. She carried the kenkey on her head while she roamed approximately six kilometres each day sell it. In the African context, women are expected to complete most of the household chores (Kinsman et al., 2015). Thus, household chores facilitate a significant portion of a women's engagement in physical activity (Phongsavan et al., 2004). Fynnba said, “When I get up around

² Fufu is originally a Twi (language of the Akan ethnicity in Ghana) word meaning mash or mix. It is a swallow soft doughy/mushy pounded cassava with plantains or coco yams in a mortar with a pestle and, eaten with only liquid soups as, light soup, palm nut soup, groundnut soup, and others.

³ Oware is an abstract strategy game among the Mancala family of board games (pit and pebble games) played worldwide with slight variations as to the layout of the game, number of players and strategy of play. Its origin is uncertain, but it is widely believed to be of Ashanti origin.

⁴ Ludo is a strategy board game for two to four players, in which the players race their four tokens from start to finish according to the rolls of a single die.

4:30 am, I sweep, I fetch my water, I do those three times, and I take my garbage to the garbage dump.” Efuah stated, “I sweep, I wash my bowls, and anything that I have to do in the house I do it.” In their communities, the water sources are situated over 4 kilometres away from their houses. Usually, they walk over this distance more than two times a day to fetch water.

Asamoah (2018) explained communal labour as community members coming together to complete a task to fulfil their communal interest. He noted that communal labour has contributed significantly to Ghana's development and traced the practice through the pre-colonial, colonial, and post-colonial eras. Similar to household chores, the participants reported that they were responsible for most of the communal labour in their villages. “Women do the most part of the load,” Asantewaa described, and added that, “We weed the roadside, carry sand and stones, and clean gutters.” Fynnba stated that, “If you don't go to communal labour, you will be fined. Because of that, we all go.” After extensive research, we were unable to locate research citing communal labour as a means of physical activity. However, in the interviews, the participants made it clear that communal labour in rural Ghanaian women's lives is an important, yet unrecognized, source of physical activity in their lives.

Motherhood and the lower socio-economic status of most participants were major barriers to participating in organised physical activity. When participants were asked what they considered as the major reason women of their community did not consider engaging in organised physical activity, four of them stated that due to lower incomes, they preferred to work on their farms rather than exercise or play sports. Abena described the women in her community as being in the role of both parents, and thus, they must work long hours to be able to take care of their children. She concluded:

Due to life difficulties, some will go and sell instead of going to exercise. These women have to sell to take care of their children, so if you tell them to exercise, they don't know how that can help their lives.... these women cannot exercise because they are seen to be both the father and mother in their children's lives. They cater to the family, so to leave their work and go for a jog, or a walk will be a problem. Most of the time, before they come back home, they are already [too] tired to do anything else. For some people, they even leave home before 6:00 am to the farm. Most people don't have help in their lives to have the luxury of exercising.

When women need to spend most of their time making sure the family has something to eat, they are left with little time or strength to engage in organized PA or other leisure activities. Hawa expressed it this way, “We don't have time. You can tell your friend that we should take a walk sometimes, she will say I don't have time. Even if we have time, the children will come and call their mothers when we start the activities.”

It was evident that the participants missed out on organized physical activity, but their traditional work required many bodily movements, thereby likely fulfilling their daily physical activity quota. Research by Aikins et al. (2014) found that some women living in urban areas in Africa have physical activity as part of their working lives in street hawking, domestic servitude, or mechanics. Similarly, this can be said for women living in rural areas since they often make a living as traders and farmers. Motherhood, across most cultures, make a women's ability to participate in physical activity much more challenging (Limbers et al., 2020; Watson et al., 2017) but that poverty makes this much more problematic (Burnett, 2002; Hawes et al., 2019). In conclusion, adulthood is a time of where occupational and household chores enable most PA in the women's lives.

Middle age

This last section covers the stage from 40 to 60 years, the current age of our participants. At this phase of their lives, all motivation to engage in organized PA was lost. They did not have any physically active friends and their emphasis was still placed on their occupation and how to raise money and food for their family. After all their responsibilities were taken care of, participants stated they were left with little time or energy to engage in organized PA. Researchers have confirmed fatigue, as a major barrier to women's PA involvement (Brownson et al., 2000; King et al., 2000). Nadri et al. (2016) linked time limitations to the barriers of older adults' involvement in PA. Hawa described it this way, "If you look for me and you don't find me, I will be sleeping. After church, I just go to bed or stay at my compound. If my kids come around, I converse with them."

Booth et al. (2000) suggested that having friends who frequently participated in physical activity influenced individuals to engage in regular physical activity. In the current research, participants were not able to benefit in this way because most did not have friends that were physically active. Rahmat stated that her friends had all moved away from her village, "I don't have friends. My friends have all travelled, so I don't have a friend to play with."

Finally, in this stage of life, many of these women experienced a decrease in their involvement in household chores. This happened because their children were now older and took on a more significant number of household duties. Efuah stated, "I have grown up children. So, the things that I used to do alone, they do it now. For instance, they sweep now." With this change, the amount of PA that they used to derive from household chores is no longer there, and as a result, they are at a higher risk for diseases associated with lack of PA, such as muscular and cardiorespiratory diseases, unhealthy bone, hypertension, stroke, type 2 diabetes, osteoporosis, and cancer (CDC, 2019).

This theme presented how PA involvement for women in rural Ghana was influenced by life stage. It also showed how PA involvement decreased for women as they reached middle age. Due to women's gender-based work patterns in rural Ghana, it is essential to understand the differences in enablers and barriers to PA in each life stage so that interventions can be specifically designed to suit each life stage. It is imperative to help aging women in rural areas to become involved in organized PA. This will ensure that, as they lose their "built in" PA from their occupation and chores due to aging, they can rely on other forms of PA such as walking, jogging, and sporting games for both health and leisure.

Theme Two: The role of the community in providing PA avenues

In this study, we saw the community as the main force in creating avenues for PA. The creation of PA avenues by the participants' communities could be seen as both intentional and unintentional. This can be intentional in the sense that these communities have provided playing fields that were constantly made safe, clean, and accessible to everybody. However, most playing fields were only utilized by boys and men. The communities also included sporting events in their annual festival events. Kirby et al. (2007) found that a necessary component for PA involvement is a supportive physical environment.

Participants were asked what they viewed as barriers to physical activity for women in their communities. Among the nine participants, five of them answered that women in their community lack the knowledge related to exercise or organised physical activity. Fynnba responded, "I think it is the lack of knowledge. If we get someone to teach us, we will do."

Egyirwaa also said, “We were not trained with it that is why we don’t do it.” The lack of knowledge of physical activity of our participants showed throughout the interviews by how they answered certain questions. When asked what they think physical activity is, three of the participants mentioned they did not understand. The others who answered gave an explanation regarding exercise as the only component of physical activity. They did not see their household chores or their traditional farming and selling as a means of contributing to their physical health.

Our participants expressed feeling safe when they walked by the roadside. They only stated a fear of reptiles such as venomous snakes or lizards on their walking paths. However, these women felt safe by the road because of the paucity of vehicles in these rural areas. A study conducted by Aronson and Oman (2004) in Oklahoma on exercise and PA among rural-dwelling senior citizens revealed that their participants did not feel safe in the outdoors, and they requested more indoor areas. They had concerns about traffic, the weather, looking out for dogs, limited sidewalks, and their safety at night. Compared to these findings, our participants did not express any interest in indoor facilities since they were unaware that such facilities exist. They also did not report having issues regarding weather or traffic. We, however, think the rural communities need to do more to create wider (and thus safer) walking paths.

The community unintentionally created avenues for PA involvement through their communal labour practices. Communal labour was organized almost weekly, according to most of our participants. Activities like weeding, fetching, and carrying sand and stones, sweeping, and the like were all vigorous activities and were good examples of PA. It was seen to be unintentional because our participants did not recognize that their communal labour involvement created an avenue for PA participation. Festival time activities could be seen as the intentional way the community helped create avenues for PA engagement.

In summary, these participants' communities are helping their inhabitants engage in some forms of PA. Still, they need to do more to get these women out of their homes and enjoying organized PA throughout their lives. The communities were the first contact to these participants aside from their family. As such, the community should be at the forefront in getting people engaged in PA by extending the organization of sporting events during festivals to other religious festive occasions like Christmas, Easter, Eid al-Adha and Eid al-Fitr. These are religious occasions, but usually, the entire community joins to celebrate.

Theme Three: The role of religious groups in promoting PA involvement

Several researchers have reported a significant relationship between social support and PA (Booth et al., 2000; Wendel-Vos et al., 2007). When religious groups supported or encouraged PA, the social supports created can be relied on to help women participate in PA. Kanu et al. (2008), in their study about exploring associations between church-based social support and PA, reported that individuals who received information and support for PA from their clergy were more likely to meet recommended PA levels.

When asked their religion, the participants identified as Christians (6) and Muslims (3). All the Christians mentioned they attend the Methodist Church of Ghana, and the three Muslims are all Ahmadis. When participants were asked if their religious groups enabled physical activity for them, the responses were diverse. Answers ranged from religious groups don’t organize physical activity at all to they do on occasions like Christmas and Easter. The Muslim participants mentioned that when they attended district conferences some physical activity was organized for them, but in their regular religious communities, there was no physical activity organized.

It was evident that the participants hold their religious groups in high esteem. When asked about the role her religious group played in her life, Abena responded, “You know without God you are just there. So, Christianity helps us a lot in different ways.” Asantewaa also said, “The church helps me listen to God’s word and guides me on living my life.” Esi stated that, “I believe that religion helps me on how to live a Godliness life.” Finally, Hawa described it this way: I grew up seeing both of my parents and everybody in my household as Muslims. My love for our veil and the way we behave at the mosque make me happy. I don’t wish to be in any other religion. Since I was born into the religion, nobody can change my mind.” The statements by these participants made it clear how deeply connected they were to their religion and such, any attempt made by their religious leaders to help raise their physical health would likely be well accepted by their members.

Our participants described religion as an important and time-consuming part of their lives, however, they concluded that their religious groups played a meagre role in helping them engage in PA. Religious groups could have a more powerful impact on their members if they helped organize physical activities for them. For a religious group to be sustainable, it needs engaged members. Holt et al. (2013) found out that African Americans, on average, tend to have a relatively high level of religious involvement and suffer a higher burden on health conditions than other groups. This can also be said for our participants.

Religious groups have a more significant role to play in getting their members to engage in PA. “Changing health behaviours in community requires both input from individuals who possess knowledge and credibility and a receptive audience.” (Anshel & Smith, 2014, n.p). However, religious leaders who are seen to be one of the groups of individuals who are in the position to promote community change are virtually ignored in the applied health and consulting psychology literature (Anshel & Smith, 2014). Religious leaders possess extraordinary credibility, communicative skills, and persuasive powers which they can channel in promoting virtues of healthy living (Anshel & Smith, 2014). Therefore, we think religious groups could use their position to create programs that will enhance PA involvement among women. When this is done, women can dwell in both the social support and a social network which supports their PA involvement. For example, Banerjee et al. (2017) found that “Mosques could be beneficiary in providing PA opportunities for Muslim women” (p.349). They also concluded that “culturally relevant structured networks such as mosques are important assets when designing healthy lifestyle interventions for South Asian Muslim women” (p.349).

Theme Four: How organized PA can be established and maintained

Women in rural areas most often receive their PA through their household chores and traditional farming and selling. However, it was also obvious that from the ages of 40-60, our participants lost some or all their involvement in their physical labour because their children took over many of these tasks. Therefore, it is imperative to introduce these women to an organized PA to replace their lost PA from their physical labour and to introduce the fun and leisure aspects of PA. Brajša-Žganec et al. (2011) stated that leisure activities help people build social relationships, feel positive emotions, and acquire additional knowledge and skill that improve their quality of life.

During the interviews, participants were asked for their suggestions on how organized PA in their communities could be successful in gaining women’s participation. They stated that they needed someone who would be committed to organizing them by designing programs that could get them involved. Tuakli-Wosornu et al. (2014) recommended that there should be culturally

relevant fitness programs to inspire women in the urban areas of Ghana to participate in PA. This suggestion can also work in rural areas as well. Offering a culturally relevant activity would make it more likely that women like our participants would get involved. For example, organized PA offerings that utilize dance are more culturally relevant; therefore, they may be more successful in getting women to participate. In such a case, aerobics mixed with some forms of cultural dance such as “Apatampa⁵” and “Adowa⁶” could be used to form engaging aerobics routines that Ghanaian women could ultimately enjoy. Similarly, Olvera (2008) suggested that mental and physical health can be promoted in subgroups that often have lower amount of participation in PA using cultural dance.

Our participants also recommended that any organized PA program should utilize music to gain the attention of women. Macone et al. (2006) in their study on music and PA in psychological well-being, found that women exercised longer with music than without. Music listening is a recommended intervention for exercise conformity and lifestyle change because it is accessible, inexpensive, and convenient (Brawley et al., 2003). One of our participants gave an account of what happened when a nationally known soccer coach, originally from their community, came to organize morning jogging. The participant reported that the attendance for this event was very low because he did not include music. In conclusion, women in these communities needed someone with advanced knowledge and skills related to PA leadership to facilitate both PA and leisure activities. Culturally relevant activities, including local dance and music, should be core components of these activities.

Returning to the theoretical framework

The ecological model of health behaviour developed by McLeroy et al. (1988) and Sallis et al. (2008) was chosen as the theoretical framework for this research. As previously noted, this model has five levels - the intrapersonal, interpersonal, institutional, community and policy levels. The data were analyzed to determine how various factors at the five levels influenced the participants' involvement in PA. Figure 1 is a model we developed to depict the how the findings fit within the framework of the ecological model of health. This model was arranged based on the number of factors found for each level, hence, starting from the institutional level, which had the least factors, to the community level with the highest factors.

Regarding the intrapersonal level, we found that factors such as lack of time, lack of knowledge about organized physical activity, and poverty were barriers while parents being role models were a facilitator for physical activity involvement. On the interpersonal level, factors such as lack of friends to participate with and the contribution of children in household chores were barriers, while participants' involvement in household chores was a facilitator. Moving on, three factors were found at the institutional level. As well, the inability or unwillingness of religious groups to organize physical activity was a barrier for this level. Physical education in school, participation in sports, and the participants' occupations were facilitators of physical activity involvement.

The community-level had four facilitators. They were the availability of playing fields, festival time, the role of Saturday, and communal labour involvement. A barrier for this level was the inability of the women to utilize the playing fields available. Factors at the policy level of the ecological model were not mentioned by most of the participants. When probed, the

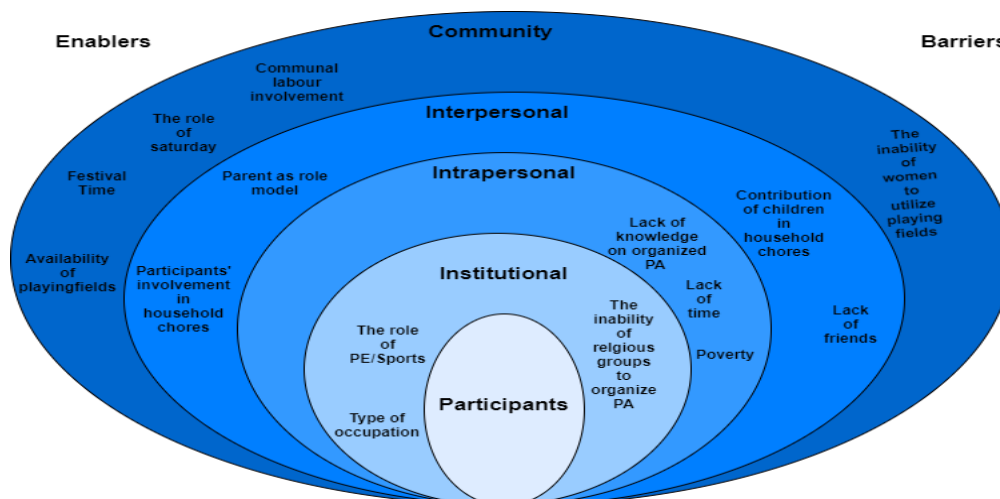
⁵ Apatampa is a recreational dance for women that is often performed for festivals, puberty rites, and wedding.

⁶ Adowa dance is a dance by the Akans of Ghana. It is performed at ceremonies such as marriage, naming ceremony, funerals, enstoolment and destoolment of chiefs and queen mothers.

participants were unaware of physical activity policies in their communities. Using the lens of the ecological model of health to guide both data collection and analysis, we found that different level of influence affected PA participation with the community and interpersonal levels having had the greatest influence.

Figure 1

A Model of Enablers and Barriers to PA Participation for Rural Ghanian Women



Regarding the intrapersonal level, we found that factors such as lack of time, lack of knowledge about organized physical activity, and poverty were barriers while parents being role models were a facilitator for physical activity involvement. On the interpersonal level, factors such as lack of friends to participate with and the contribution of children in household chores were barriers, while participants' involvement in household chores was a facilitator. Moving on, three factors were found at the institutional level. As well, the inability or unwillingness of religious groups to organize physical activity was a barrier for this level. Physical education in school, participation in sports, and the participants' occupations were facilitators of physical activity involvement. The community-level had four facilitators. They were the availability of playing fields, festival time, the role of Saturday, and communal labour involvement. A barrier for this level was the inability of the women to utilize the playing fields available. Factors at the policy level of the ecological model were not mentioned by most of the participants. When probed, the participants were unaware of physical activity policies in their communities. Using the lens of the ecological model of health to guide both data collection and analysis, we found that different level of influence affected PA participation with the community and interpersonal levels having had the greatest influence.

Conclusion

This study ascertained some of the factors that influence rural women's involvement in PA in Ghana. It was clear that the study participants get a large amount of PA from their involvement in their traditional occupations and household chores. However, they tend to lack involvement in organized PA such as walking groups, exercise classes, or any type of sports. As

these women grew older, it is evident that that many lessened their involvement in their traditional work and household chores. For these women to stay active and avoid diseases related to inactivity, such as hypertension, diabetes, or cancers, there is the need for them replace these traditional sources of PA with other PA activities that fall within the sphere of recreation and leisure. To help these women in such a transition, various stakeholders such as community leaders, government officials and recreational providers should pay attention to the recommendations made from this and similar research.

Limitations

There was an initial plan to travel and collect data in person; however, this did not happen because of the COVID-19 pandemic and the resulting travel restrictions. This resulted in the necessity of using telephone interviews. The conversations with participants resulted in more short answers. It was harder to communicate in terms of technology where connections were dropped most at the time, and participants had to call again. We sampled women from rural areas in the central region only. However, we had diverse participants who were either Christians or Muslims. The data and the study's conclusions are not generalizable to a larger population, but they give a telling glimpse into the lives of rural women's PA. Because we were not able to travel, we could not have access to different women. Recruitment was based on women who had access to phones and those who could hear the announcement. Since we conducted the interview in Fante, the dialect of the region, there was likely a limitation in language. One of the authors could not read the original transcripts because of the language used. She could only read the translated version, so we may have missed some of the meanings. We also struggled to find a phrase that expressed PA in Fanti. This accounted for why most participants defined PA as only sports or exercise.

Recommendations for PA Programming and Research in Rural Ghana

Examining what the study found and drawing from the experience of one of the authors being a physical educator in Ghana, we suggest these following recommendations to rural community leaders, religious leaders, school recreational providers, PA researchers, the Ghana Educational Service, and all levels of government in Ghana. We made these recommendations paying attention to the CDC (2019) report, with recommendations from organizations such as the American Medical Association (2004), WHO (2008), and the Institute of Medicine (2009) on how PA can be promoted. We believe, and our data suggests that if these recommendations are considered, the factors identified as barriers to PA could be lessened or removed. The recommendations are:

- (1) We recommend that district physical educators and sports directors collaborate with community leaders, religious leaders, and the health ministry to organize educational programs to teach women the importance of PA. This can be done quarterly and can be done through the community centres' information service, churches and mosques gatherings, marketplaces, and hospitals/clinics.
- (2) We recommend that religious leaders include physical activities like walking, jogging, and aerobics in their monthly community schedules to further involve women in PA.
- (3) We recommend that the government, in conjunction with the ministry of education, create a sports policy that calls for fairness and equity in representation in sports. This will help achieve the millennium goal of promoting gender equality and

- empowerment of women. This will also allow every girl to acquire the necessary fundamental movement skills to participate in PA and sport thus providing the necessary skills and knowledge for a lifetime of participation.
- (4) We recommend that the ministry of education to provide additional PA resources to rural schools, including qualified physical educators, sporting facilities, and equipment. This would provide the necessary resources for recommendation three to succeed.
 - (5) We recommend that study could be extended by using quantitative methods. Instead of utilizing semi-structured interviews for participants to describe their PA involvement, future researchers could utilize a measurement design with similar participants. The participants could be equipped with an accelerometer to measure their daily PA. Since our participants gave self-reports on their PA level and knowing that there can be limitations in the accuracy of self-reported PA data, a logical next step will be to conduct a study that may provide more accurate measurement of participants' PA levels.
 - (6) We also recommend that future research delve more into the policy level of the ecological model so that systemic barriers to PA in the rural African context can be better understood. A study interviewing rural community or political leaders about existing and planned PA policies could fill a knowledge gap that our participants could not.

References

- Aikins, A. D. G., Agyei-Mensah, S., & Agyemang, C. (2014). Chronic non-communicable diseases in Ghana. *Multidisciplinary Perspectives. Sub-Saharan Publishers, 1*.
- American Medical Association. (2004). National submit on obesity: Executive summary and key Recommendations.
- Amoah, A. G. (2003). Sociodemographic variations in obesity among Ghanaian adults. *Public Health Nutrition, 6*(8), 751-757.
- Anshel, M. H., & Smith, M. (2014). The role of religious leaders in promoting healthy habits in religious institutions. *Journal of Religion and Health, 53*(4), 1046-1059.
- Aronson, R. E., & Oman, R. F. (2004). Views on exercise and physical activity among rural-dwelling senior citizens. *The Journal of Rural Health, 20*(1), 76-79
- Asamoah, S. (2018). Historical overview of the development of communal labour from pre-colonial to post independence Ghana; *International Journal of Scientific and Research Publications 8*(4) 2250-3153.
- Assah, F. K., Ekelund, U., Brage, S., Mbanya, J. C., & Wareham, N. J. (2011). Urbanization, physical activity, and metabolic health in sub-Saharan Africa. *Diabetes Care, 34*(2), 491-496.

- Balis, L. E., Sowatey, G., Ansong-Gyimah, K., Ofori, E., & Harden, S. M. (2019). Older Ghanaian adults' perceptions of physical activity: An exploratory, mixed methods study. *BMC Geriatrics, 19*(85).
- Banerjee, A. T., Landry, M., Zawi, M., Childerhose, D., Stephens, N., Shafique, A., & Price, J. (2017). A pilot examination of a mosque-based physical activity intervention for South Asian Muslim women in Ontario, Canada. *Journal of immigrant and minority health, 19*(2), 349-357.
- Baruth, M., Sharpe, P. A., Hutto, B., Wilcox, S., & Warren, T. Y. (2013). Patterns of sedentary behavior in overweight and obese women. *Ethnicity & Disease, 23*(3), 336.
- Biritwum, R. B., Gyapong, J., & Mensah, G. (2005). The epidemiology of obesity in Ghana. *Ghana Medical Journal, 39*(3), 82-85.
- Booth, M. L., Owen, N., Bauman, A., Clavisi, O., & Leslie, E. (2000). Social-cognitive and perceived environment influences associated with physical activity in older Australians. *Preventive Medicine, 31*(1), 15-22.
- Brajša-Žganec, A., Merkaš, M., & Šverko, I. (2011). Quality of life and leisure activities: How do leisure activities contribute to subjective well-being? *Social Indicators Research, 102*(1), 81-91.
- Brawley, L. R., Rejeski, W. J., & King, A. C. (2003). Promoting physical activity for older adults: The challenges for changing behavior. *American Journal of Preventive Medicine, 25*(3), 172-183.
- Bronfenbrenner, U. (1980). Ecology of childhood. *School Psychology Review, 9*(4), 294-297.
- Brownson, R. C., Eyler, A. A., King, A. C., Brown, D. R., Shyu, Y. L., & Sallis, J. F. (2000). Patterns and correlates of physical activity among US women 40 years and older. *American Journal of Public Health, 90*(2), 264.
- Burnett, C. (2002). Women, poverty and sport: A South African scenario. *Women in Sport & Physical Activity Journal, 11*(1), 23-48.
- Centers for Disease Control and Prevention. (2019). *Lack of physical activity*. <https://www.cdc.gov/chronicdisease/resources/publications/factsheets/physical-activity.htm>
- Centers for Disease Control and Prevention. (2019). *Worksite physical activity*. <https://www.cdc.gov/physicalactivity/worksite-pa/index.htm>
- Dake, F. A., Tawiah, E. O., & Badasu, D. M. (2010). Sociodemographic correlates of obesity among Ghanaian women. *Public Health Nutrition, 14*(7), 1285-1291.

- Ecological models - Rural health promotion and disease prevention toolkit. (n.d.). Rural Health Information Hub. <https://www.ruralhealthinfo.org/toolkits/health-promotion/2/theories-and-models/ecological>
- Edusah, S. E., & Antoa, E. (2014). The socio-economic contribution of rural small-scale industries in Ghana. *Journal of Economics and Sustainable Development*, 5(2), 161-172.
- Glaser, Barney G & Strauss, Anselm L. (1967). *The Discovery of Grounded Theory: Strategies for qualitative research*. Aldine Publishing Company.
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods* 18(1), 59-82.
- Hawes, A. M., Smith, G. S., McGinty, E., Bell, C., Bower, K., LaVeist, T. A., ... & Thorpe Jr, R. J. (2019). Disentangling race, poverty, and place in disparities in physical activity. *International Journal of Environmental Research and Public Health*, 16(7), 1193.
- Healy, G. N., Matthews, C. E., Dunstan, D. W., Winkler, E. A., & Owen, N. (2011). Sedentary time and cardio-metabolic biomarkers in US adults: NHANES 2003–06. *European Heart Journal*, 32(5), 590-597.
- Holt, C. L., Wang, M. Q., Clark, E. M., Williams, B. R., & Schulz, E. (2013). Religious involvement and physical and emotional functioning among African Americans: The mediating role of religious support. *Psychology & Health*, 28(3), 267-283.
- Institute of Medicine. (2009). *Local government actions to prevent childhood obesity*. Washington, D.C.: National Academy of Sciences Press.
- Jackson, R. L., Drummond, D. K., & Camara, S. (2007). What is qualitative research?. *Qualitative research reports in communication*, 8(1), 21-28.
- Kanu, M., Baker, E., & Brownson, R. C. (2008). Exploring associations between church-based social support and physical activity. *Journal of Physical Activity and Health*, 5(4), 504-515.
- King, A. C., Castro, C., Wilcox, S., Eyler, A. A., Sallis, J. F., & Brownson, R. C. (2000). Personal and environmental factors associated with physical inactivity among different racial-ethnic groups of U.S. middle-aged and older-aged women. *Health Psychology*, 19(4), 354-364.
- Kinsman, J., Norris, S. A., Kahn, K., Twine, R., Riggle, K., Edin, K., Mathebula, J., Ngobeni, S., Monareng, N., & Micklesfield, L. K. (2015). A model for promoting physical activity among rural South African adolescent girls. *Global Health Action*, 8(1), 28790.

- Kirby, A. M., Lévesque, L., Wabano, V., & Robertson-Wilson, J. (2007). Perceived community environment and physical activity involvement in a northern-rural Aboriginal community. *International Journal of Behavioral Nutrition and Physical Activity*, 4(1), 1-9.
- Limbers, C. A., McCollum, C., Ylitalo, K. R., & Hebl, M. (2020). Physical activity in working mothers: Running low impacts quality of life. *Women's Health*, 16, 1745506520929165.
- Macone, D., Baldari, C., Zelli, A., & Guidetti, L. (2006). Music and physical activity in psychological well-being. *Perceptual and Motor Skills*, 103(1), 285-295.
- McLeroy, K. R., Bibeau, D., Steckler, A., & Glanz, K. (1988). An ecological perspective of health promotion programs. *Health Education Quarterly* 15(4), 351-377.
- Minicuci, N., Biritwum, R. B., Mensah, G., Yawson, A. E., Naidoo, N., Chatterji, S., & Kowal, P. (2014). Sociodemographic and socioeconomic patterns of chronic non-communicable disease among the older adult population in Ghana. *Global Health Action*, 7(1), 21292.
- Mogre, V., Mwinlenaa, P. P., Oladele, J., & Amalba, A. (2012). Impact of physical activity levels and diet on central obesity among civil servants in Tamale metropolis. *Journal of Medical and Biomedical Sciences*, 1(2), 1-9.
- Nadri, A., Safania, A. M., & Amritash, A. M. (2016). Determinant of the implementation of physical activities in elderly in Tehran. *Journal of Gerontology*, 1(2), 66-79.
- Olvera, A. E. (2008). Cultural dance and health: A review of the literature. *American Journal of Health Education*, 39(6), 353-359.
- Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice*.
- Phongsavan, P., Merom, D., Marshall, A., & Bauman, A. (2004). Estimating physical activity level: the role of domestic activities. *Journal of Epidemiology & Community Health*, 58(6), 466-467.
- Sobngwi, E., Mbanya, J. N., Unwin, N., Kengne, A., Fezeu, L., Minkoulou, E., Aspray, T., & Alberti, K. (2002). Physical activity and its relationship with obesity, hypertension and diabetes in urban and rural Cameroon. *International Journal of Obesity*, 26(7), 1009-1016.
- Taiwo, A., & Kumi, F. (2015). Status of agricultural mechanization in Ghana: A case study of maize producing farmers in Ejura/Sekyedumase district, Ashanti region. *International Research Journal of Engineering and Technology*, 2(9), 36-43.
- Tuakli-Wosornu, Y. A., Rowan, M., & Gittelsohn, J. (2014). Perceptions of physical activity, activity preferences and health among a group of adult women in urban Ghana: A pilot study. *Ghana Medical Journal*, 48(1), 3-13.

- Watson, E. D., Van Poppel, M. N., Jones, R. A., Norris, S. A., & Micklesfield, L. K. (2017). Are south African mothers moving? Patterns and correlates of physical activity and sedentary behavior in pregnant black south African women. *Journal of Physical Activity and Health, 14*(5), 329-335.
- Webster, C. A., & Suzuki, N. (2014). Land of the rising pulse: A social ecological perspective of physical activity opportunities for schoolchildren in Japan. *Journal of Teaching in Physical Education, 33*(3), 304-325.
- Wegmüller, R., Bentil, H., Wirth, J. P., Petry, N., Tanumihardjo, S. A., Allen, L., Williams, T. N., Selenje, L., Mahama, A., Amoafu, E., Steiner-Asiedu, M., Adu-Afarwaa, S., & Rohner, F. (2020). Anemia, micronutrient deficiencies, malaria, hemoglobinopathies and malnutrition in young children and non-pregnant women in Ghana: Findings from a national survey. *PLOS ONE, 15*(1), e0228258.
- Wendel-Vos, W. M. S. J. F., Droomers, M., Kremers, S., Brug, J., & Van Lenthe, F. (2007). Potential environmental determinants of physical activity in adults: A systematic review. *Obesity Reviews, 8*(5), 425-440.
- World Health Organization WEF. (2008). Preventing non-communicable diseases in the workplace through diet and physical activity: *WHO/World Economic Forum Report of a Joint Event*.
https://apps.who.int/iris/bitstream/handle/10665/43825/9789241596329_eng.pdf;jsessionid=B906EB1D027A3B9053D11F8D7AC243FC?sequence=1
- World Health Organization. (2018). *Physical activity*. (<https://www.who.int/news-room/fact-sheets/detail/physical-activity>)
- World Health Organization. (2020). *Physical activity*. <https://www.who.int/news-room/fact-sheets/detail/physical-activity>