British Journal of Humanities and Social Sciences

DOI: 10.61424/bjhss
Journal Homepage: www.bluemarkpublishers.com/index.php/BJHSS

BJHSS
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| RESEARCH ARTICLE

Influence of Cultural Factors on Gender Participation in Physical Activity among Colleges of Education Students in the Ashanti Region of Ghana

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| ABSTRACT

This study examined the impact of cultural factors on the participation of women and men in physical activity among first-year students at colleges of education in the Ashanti Region of Ghana. A descriptive cross-sectional survey design was used, involving 1,680 participants selected by stratified random sampling from seven public colleges of education. Data collection was facilitated by a validated questionnaire, which included demographic information and items on cultural perceptions and physical activity participation. The analysis used descriptive statistics, independent t-tests and multiple regression techniques. The results showed a significant gender gap in the level of physical activity, with male students showing a higher rate of participation than female students ($p<.01$). In addition, cultural beliefs, gender role expectations and traditional norms were important predictors of the participation of female students in PE ($R^2 = .42$, $p<.001$). These findings emphasise how important it is for culturally sensitive interventions to promote equal participation in physical activity in educational institutions. Based on the results, recommendations include revising curricula, launching awareness campaigns and implementing targeted programmes to address cultural barriers.

| KEYWORDS

Colleges of Education; Cultural expectations; Gender participation, physical activity, Mental health

| ARTICLE INFORMATION

ACCEPTED: 04 April 2025 **PUBLISHED:** 06 July 2025 **DOI:** 10.61424/bjhss.v2.i1.318

1. Introduction

Involvement in physical activity is an indispensable aspect of holistic health and well-being, which promotes physical, mental, emotional and social growth. It will make a significant contribution to improving mental health and lowering the chance of chronic disease development, improving academic achievement and promoting social integration (WHO, 2022; Sallis et al., 2021). Despite the many benefits of physical activity, participation rates vary between different demographic groups, especially men and women, influenced by different socio-cultural factors. Differential participation between women and men in physical activity is a major problem in various regions of the world, including Ghana (Owusu and Mensah, 2022). These differences are particularly evident in culturally conservative societies, where ingrained traditional roles and norms have a strong influence on behaviour. Cultural beliefs often impose different expectations on men and women, which affect their participation in public spheres, including sport and physical activity (Owusu and Mensah, 2022; Dansa and Tetteh, 2020). This gender gap is particularly acute among young people, particularly those in transition, such as students in higher education.

In Ghana, socio-cultural factors continue to have a significant effect on the perception and attitude of students towards physical activity. Cultural expectations tend to favour participation in sport by men, which is seen as an

indicator of masculinity, strength and leadership (Asante & Boateng, 2011). Boys are often encouraged to take part in active play, competitive sports and physical exercise from a young age, leading to increased levels of physical activity in adulthood. Girls, on the other hand, are typically conditioned to focus on domestic duties, modesty and propriety - values that can be a barrier to participation in physical activity, particularly in a public or competitive setting (Amoako et al., 2021; Nyarko and Amponsah, 2020). In many Ghanaian communities, attitudes about femininity often equate it with submission and chastity, discouraging women and girls from participating in sport. The expectations of religion and the family may reinforce these ideas and limit girls' and women's opportunities to participate in structured physical activity (Mensah and Ankomah, 2023). In addition, school systems may unintentionally perpetuate these inequalities by providing fewer opportunities for girls to participate in organised sports or by failing to provide a safe and inclusive environment for their participation (Tufaor, 2021).

Although there is a growing literature on gender and physical activity in Sub-Saharan Africa, most studies focus on primary and secondary education, with little attention given to tertiary institutions, particularly universities. Nevertheless, these institutions play a key role in shaping future teachers who will influence future generations of students. Beliefs and behaviours formed in teacher training can significantly influence the path that physical education and gender roles are addressed in Ghanaian classrooms. Understanding how cultural factors affect the participation in physical activity among trainees in the teaching profession is, therefore, of national importance.

Interestingly, not much research has been done expressly on how culture, gender, and physical activity interact with first-year students at Ghanaian universities. By investigating how gender expectations and cultural norms impact male and female students' engagement in physical activity in the Ashanti region, this study seeks to close this disparity. Understanding the challenges and motivations faced by first-year students can help develop more equitable and culturally sensitive physical education practices, as they are still in the formative stages of their education and social integration. Additionally, by encouraging an inclusive learning environment and gender equality in health promotion initiatives in teacher education institutions, this research aligns with the main sustainable development goals, specifically SDG 3 (health and wellbeing), SDG 4 (quality education), and SDG 5 (gender equality).

2. Materials and Methods

2.1 Research Design

This study was guided by the positivist paradigm of research, which is based on objectivist ontology, which holds that reality is external, measurable, and independent of human perception (Ali, 2024). In this context, cultural factors affecting gender participation in physical activity are seen as observable phenomena that exist objectively in the social environment in colleges of education in the Ashanti region of Ghana. The study also subscribes to the empiricist epistemology, which holds that knowledge of social reality is best obtained by direct observation and measurement of objective facts (Fuhse, 2022). Based on these philosophical views, the study used a descriptive cross-sectional survey design using quantitative methods. This approach was considered to be appropriate for a systematic investigation of the impact of cultural factors on gender participation in physical activity by collecting data at a single time point and then analysing it in a statistical way. This approach allowed researchers to identify patterns, relationships and differences in the target population through objective and quantifiable evidence (Hossain, 2021).

2.2 Population and Sampling Procedure

The target group for the study was first-year students enrolled in public higher education institutions in the Ashanti region. The selection of first-year students was based on the assumption that they were relatively new to the university environment and would therefore be more likely to reflect the prevailing cultural influences of their home communities. A total of 1,680 students took part in the study. The stratified random sample was used for the selection of respondents by random deduction of initials. The population was stratified by gender and institution to ensure a balanced and proportionate representation of male and female students from different colleges. Simple random sampling was then used in each stratum to select the required number of participants (Beck, 2024).

2.3 Instrumentation

The Cultural Impact on Physical Activity Scale (CIPAS), a structured questionnaire created and approved by the researchers, was used to gather data. The purpose of the CIPAS was to assess participant demographics, the degree of physical activity participation, and cultural factors influencing physical activity. The Cronbach's alpha coefficient of 0.87 indicated high robustness, and the scale demonstrated strong internal consistency. To make sure it was understandable and pertinent, the questionnaire was tested on a sample of non-students. It included both demographic questions and closed-ended Likert-type items.

2.4 Data Collection Procedure

Researchers administered questionnaires in person during scheduled PE periods and on study leave in order to maximise participation. Clear instructions were provided, and respondents completed the instruments under the supervision of trained research assistants. Completed questionnaires were received on the same day to increase the number of replies and the quality of the data.

2.5 Data Analysis

The collected data were encrypted and fed into SPSS version 26 for analysis. Descriptive statistics, including the means and standard deviations, were calculated for the summary of demographic data and physical activity levels. Independent t-tests on samples were performed to identify differences in physical activity participation between male and female students. Additionally, multiple regression analysis was used to assess the predictive relationship between cultural factors and the gender gap in physical activity participation. Statistical significance was $p<0.05$ for all regression analyses.

3. Results

Table 1: Demographic Characteristics of Respondents (N = 1680)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	778	46.3
	Female	902	53.7
Age (years)	18–19	754	44.9
	20–21	667	39.7
	22 and above	259	15.4
Mean age (SD)	—		19.8 (1.3)

Among the 1,680 participants, 902 were women, representing 53.7 per cent of the sample, and 778 were men, representing 46.3 per cent of the sample. The gender balance is reflected in a relatively balanced representation with a slight predominance of female students, which is in line with the overall gender balance observed in many Ghanaian HEIs, where the share of female students tends to be higher in some academic programmes. Median age of respondents was 19.8 years, with a standard deviation of 1.3 years. This suggests that most of the respondents were in the narrow and relatively homogeneous age bracket typical for first-year students in Ghana. The low standard deviation indicates a minimum of variability in respondents' ages, which helps to ensure comparability when analysing how cultural factors influence physical activity participation in a given age group.

Table 2: Independent Samples t-Test for Gender Differences in Physical Activity Participation

Gender	N	Mean (M)	Std. Deviation (SD)	T	Df	p-value
Male	778	4.23	1.11	10.32	1678	< .001
Female	902	3.41	1.09			

There is a clear gender gap in the level of physical activity of male and female students in the higher education system in the Ashanti region. The Independent T-test was compare the mean PE scores of male and female students, and the results showed that male students (M = 4.23, SD = 1.11) were significantly more physically active than female students (M = 3.41, SD = 1.09). Protestant. The t-value obtained of 10.32 with free variation (df) = 1678 was statistically significant with a p<.0001 error. The p-value indicates that there is less than one per cent probability that the observed difference in mean scores is due to randomness. In other words, the result is highly unlikely to be due to random variation of the sample, thus confirming the real difference in participation by male and female students in physical activity.

Table 3: Multiple Regression Analysis Predicting Female Students' Physical Activity Participation from Cultural Factors (N = 902)

Predictor Variable	B	SE B	B	T	p-value
Cultural Beliefs	-0.42	0.06	-0.35	-7.00	< .001
Traditional Gender Roles	-0.31	0.05	-0.29	-6.20	< .01
Family Expectations	-0.21	0.04	-0.18	-5.25	< .05
Model Summary					
R^2 = .42					
F(3, 898) = 35.61, p < .001					

Female physical activity participation is significantly and negatively impacted by cultural beliefs, traditional gender roles, and family expectations, according to the regression analysis results shown in Table 3. The greatest negative impact was specifically caused by cultural beliefs (β = -0.35, p<dot001), suggesting that strict cultural norms and views on proper behaviour deter women from engaging in physical activity. The predictability of traditional gender roles was also significantly negative (β = -0.29, p<). 01), which emphasises how social norms that prioritise household duties and passive recreation over active involvement in sports restrict women's involvement. Furthermore, expectations from family members (β = -0.18, p< 05) added to the detrimental effect, indicating that barriers to physical activity among female students are further restricted by family attitudes and pressures. These

three factors combined were responsible for 42% of the variability (R2 =). 42) in women's physical activity levels, and the regression model as a whole (F(3, 898) = 35.61, p<) was statistically significant. (001). In the context of education, this emphasises how important sociocultural factors are in determining gender disparities in physical activity participation.

4. Discussion

These findings concur with previous studies showing that culture significantly affects gender differentiation in physical activity (Amoako et al., 2021). Female students face greater cultural restrictions, which limit their participation in physical activity. This pattern is also echoed by the work of Owusu and Mensah (2022), who note that traditional expectations of femininity in Ghanaian society often deter young women from engaging in strenuous outdoor physical activity. Similarly, Dansa and Tetteh (2020) found that male dominance in sport is often culturally reinforced, resulting in inequalities in opportunities and access. Ajayi and Olanrewaju (2021) also report that cultural and religious norms in many West African settings marginalise participation by women in school sports and often relegate them to a passive role.

Moreover, Asare et al. differentiate the discrepancy. (2022) stressed that the absence of gender-sensitive policies in educational institutions reinforces stereotypes and widens the participation gap. On the other hand, Mensimah and Boateng (2023) suggest that in some urban areas, changing cultural dynamics and exposure to global sport trends are gradually reducing the gender gap, allowing more women to engage in organised physical activity. Similarly, Addai and Ntim (2020) found that when schools actively implement inclusive PE programs, cultural resistance among students, particularly women, decreases. These mixed results suggest that culture remains a strong determinant of gender participation in physical activity, but that its influence may vary from region to region and from institution to institution. The results of this study, therefore, highlight the need for more local and culturally responsive interventions to promote equity and gender mainstreaming policies in Ghanaian teacher training institutions.

5. Conclusion

Finally, the study highlights the deep impact of cultural factors on the gender gap in participation in physical activity among first-year students in Ghanaian educational institutions. In order to promote equal participation, interventions must be adapted to be culturally sensitive and gender inclusive. Based on our findings, we recommend that colleges of education give priority to the integration of inclusive PE practices that cater for diverse cultural backgrounds and promote gender equality. In addition, public information campaigns should be strategically designed to challenge and dismantle harmful gender stereotypes that perpetuate inequalities in participation in physical activity. Policymakers and educators should also develop targeted policies and programmes to increase the participation of women in sport and physical activity, thereby promoting a more inclusive and supportive environment for all learners.

Ethics Approval and Consent to Participants: This study closely follows the ethical guidelines governing human subject research. Ethics clearance was provided before the study to ensure compliance with national and global ethical standards. The Research Protocol was thoroughly analysed for its potential effects on participants, confidentiality agreements and voluntary participation. In order to ensure inclusion of the different demographic groups and academic programmes, participants were selected from the colleges of education of the Ashanti Region of Ghana by a rigorous and stratified sampling approach. Each participant was informed in detail about the study objectives, parameters and methods. Before participating in the study, all participants gave their informed consent to the moratorium. The privacy of all participants was protected by anonymising their identifiers and by securely storing the collected data in password-protected digital files accessible only to the research team. Throughout the process, the research team maintained ownership and transparency to ensure that the rights, dignity and general well-being of all participants were fully respected and protected.

Acknowledgement: Our sincere appreciation goes out to everyone who helped with this research project in any way.

Conflict of interest: The authors declare no conflicting interest

Funding: the authors have not declared a specific grant for this study from any funding agency in the public, commercial or NGO

Authors' contribution:

Boakye Acheampong -- *Supervisor, drafted the materials and methods section, and helped in the analysis of the work*

Daniel Amoah Oppong -- *Administrator and Reviewer, drafted the conclusion section*

Michael Appiah -- *Data collection supervisor, drafted the questionnaire*

Stephen Baidoo -- *Data analyst, drafted the introduction section*

Data Availability Statement: data are obtainable in the public open-access repository

Declaration: We declare that this study is the result of our original research

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