

Senior high school athletes' perception of coach's leadership behaviour in terms of sex

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Abstract

The objective of the study was to investigate whether males and females differed in their perception on coaches' leadership behaviours in senior high school (SHS) in the Ashanti Region of Ghana. One hypothesis was generated to guide the research. A descriptive cross-sectional survey was used to conduct the research. A sample size of 1,002 respondents selected using multi-stage sampling from a population of 16,200 Senior High School Athletes in Ashanti Region who participated in organised inter-school sports competitions in the 2022/2023 academic year were used for the study. Adapted version of leadership scale for sports and adapted version of athletes' satisfaction questionnaire were the instruments used for the study. The data was subjected to multivariate analysis of variance. Results revealed that a noteworthy difference in perceived coaches' leadership behaviours for male and female SHS athletes { $F(5, 995) = 14.11, p < .001$ }. In light of the results, it is recommended that the coaches/PE teachers should assess and determine the type of coaching behaviour that is appropriate for a particular sex during training and competitions.

Keywords: Athletes perception; Coaches leadership behaviour; Senior High School; Males; Females

1. Introduction

Leadership, as a dynamic force in sports, involves utilizing power and interpersonal ties to shape behavior and performance, ultimately serving organizational objectives [1]. The study of leadership in sports organizations has been a focal point, particularly in the realm of coaches' roles and their impact on athletes. The complexities inherent in sports, ranging from individual athlete performance to team dynamics, have significant implications for athletes or teams [2, 3, 4, 5, 6, 7, 8, 9]. Coaches, playing a pivotal role in athletes' motivation and development [10, 11, 12], make the study of coach leadership behavior, especially in terms of its impact on athletes' satisfaction, an area of importance.

When athletes perceive their coaches as supportive, encouraging, and advocating high-performance expectations, it significantly influences sport-related cognition and performance [13]. An investigation on the leadership behaviours shown by sports coaches and their impact on cognitive and behavioural reactions of players becomes crucial in understanding how these behaviors, positive or negative, may impact athletes' satisfaction and overall sport-related outcomes [14, 15, 16, 4, 17, 18]. Investigating the degree to which coaching behaviors affect players' sport-related outcomes becomes essential for tailoring intervention programs related to coach leadership development, with a specific focus on athletes' satisfaction [9]. Effective coaching behaviors, such as creating a conducive training environment, hold the potential to positively influence athletes' goal orientation, participation, and performance, therefore promoting a favourable encounter and ongoing engagement in sports. Conversely, ineffective coaching behaviors, exemplified by an insulting style, can lead to negative experiences, potentially discouraging athletes, particularly in terms of their satisfaction levels and continued participation in sports [11]. Therefore, the effectiveness of leadership in sports relies on the interplay between the coach's leadership behaviours, the personal traits of the

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players, and the situational circumstances. These variables may significantly influence the athletes' perceived levels of satisfaction.

A high level of satisfaction is required for sport participation and enjoyment. If they were not gratified with their present level of achievement and satisfaction, athletes would look for it elsewhere [19]. In sports, satisfaction has been studied in depth in relation to a range of factors, the most important of which is leadership [20, 21, 22, 23, 24, 25, 26, 27, 28, 29]. The Multidimensional Model of Leadership provides insights and understanding into leadership dynamics [30, 31], the gap between the athletes' perceived and preferred styles of leadership has an influence on the level of gratification. [32] describe athlete gratification as an encouraging emotional mood that arises when an athlete examines the structures, procedures, and consequences involved with the sports activity. To put it another way, an athlete's level of gratification reflects how well the athletic attempt satisfies the athlete's own personal criteria. Athlete happiness is important for three reasons [33]. First and foremost, the passion an athlete has for their sport should be inherently connected to the sport's achievement. For example, a happy athlete will put forth greater exertion and endurance during a rivalry. The second purpose for athlete happiness is that it can be considered as a precursor or result in the conceptual outlines of other concepts, such as performance. The third purpose is that in sporting events, athletic satisfaction is a top focus, which is relevant to the study's goal. At the college level, the humanistic perspective implies that the athletic experience should be joyful and beneficial to athletes' growth, with development being a main outcome. Situational qualities such leader traits, experience, personality, and so on combined with personal characteristics and features, such as age, gender, and experience are key variables in the coach-athlete dynamics leading to perceived satisfaction.

[34] discovered that leadership styles were perceived similarly by both sexes. However, [35] highlights the discrepancies that, males and females exist in separate worlds, dictated by society's sex-based organisation, and that men and women act differently as society directs. [4] also concluded that sex has a significant impact on leadership in females compared to males and this could be no different in the sports context between athletes and coaches. Male and female athletes view coaching techniques differently [36, 37] and thus, sex may have a role in modulating the perceived leadership behaviour of coaches and the happiness of athletes. Prior research has shown a significant disparity in the perception of leadership behaviour between females and males.

It is crucial to emphasise that this research was carried out in Sub-Saharan Africa, which represents a distinct demographic compared to earlier studies. Due to that cultural and economic differences could give a different result. The study was conducted therefore to test whether males and females differed in their perception on coaches' leadership behaviours in senior high school (SHS) in the Ashanti Region of Ghana.

2. Material and methods

2.1. Study Participants

Table 1 Characteristics of the Sample Schools from the Five Zones

Zones	No. of schools	No. of males' schools	No. of females' schools	Sample size		High performers	Low performers
				Males	Females		
1	32	30	31	100	99	50%	50%
2	31	28	31	94	99	50%	50%
3	33	30	32	100	102	50%	50%
4	34	32	33	107	105	50%	50%
5	32	30	30	100	96	50%	50%
Total	162	150	157	501	501		
Grand Total	1002						

The descriptive cross sectional survey design was used to select a sample size of 1002 (501 males and 501 females) from 16,200 students' athletes from senior high schools in Ashanti Region who participated in the 2022/2023 academic

year Regional Inter-school and Collegiate Sports. The 1,002 student athletes were selected from 50 out of 162 SHS in Ashanti Region that participate in inter-school sports and games competitions. Fifty (50) out of 162 SHS was selected because the study is a survey and, therefore, need to measure a wide range of data from the population as suggested by [38]. Equal subjects (males and females) were selected on the basis that, the same number of males and females are selected to partake in all the sports events. The schools were grouped into five (5) zones.

Table 2 Characteristics of Males and Females in the Five Zones

Zone	No. of males' schools		Total no. of males' school	No. of females' schools		Total no. of females' school
	single	mixed		single	mixed	
1	1	29	30	2	29	31
2	0	28	28	4	28	32
3	1	29	30	3	29	31
4	1	31	32	2	31	33
5	2	28	30	2	28	30
Total			150			157

One hundred and fifty-seven (157) females' schools had 501 respondents, therefore using simple proportion, 31 females' schools in zone one was $\frac{31 \times 501}{157} = 98.9$. This means 99 respondents from zone one was from females' schools. Same was used to calculate for the rest of the females' schools and the males' schools as well. Simple proportion was used in order to obtain proportional representation of athletes from each zone.

One hundred and sixty-two (162) SHS in Ashanti Region were put into five subgroups (strata) called zones with stratified sampling technique. Ten (10) schools were selected from each zone using fish bowl approach of the simple random sampling. According to [39], stratified sampling increases the possibility of representativeness and nearly ensures that essential characteristics of individuals in the population are accurately reflected in the sample, maintaining proportional representation, it was employed to choose the athletes. The population was heterogeneous; therefore, stratified sampling was used to ensure that all subgroups were represented in the sample. The sample from each stratum can be proportionate or disproportionate to the size of the samples [40]. For instance, in this study, there was the need for equal representation of zones, males and females, high and low performers (in terms of those who qualify or not to athletics super zonal or from group stages of various games), and schools. After stratifying the athletes into strata to ensure equal representation of the above categories, each athlete in the schools from the zones was given the opportunity to be chosen for the study by selecting a label "yes" or "no" using the fish bowl method of simple random sampling. Those who said yes were randomly selected for the study. To ensure that all affiliates of the various strata had the same chance of being chosen, simple random sampling was used [41].

2.2. Instrumentation

Chelladurai and Saleh's Leadership Scale for Sports (LSS) and Chelladurai and Riemer's athletes' satisfaction questionnaire (ASQ)

Chelladurai and Saleh's Leadership Scale for Sports (LSS) and Chelladurai and Riemer's athletes' satisfaction questionnaire were used in the study. The demographic questions made up the first section of the data collection instrument (Age, sex, school, zone, class, and discipline). The second component of the questionnaire was based on [42] adapted version of LSS, while the third section was based on adapted version of ASQ [43].

An adapted version of the Leadership Scale for Sport (LSS) was used to determine the leadership practices of coaches [42]. The LSS is founded on the Multidimensional Leadership Model (MML). When attempting to comprehend the conclusions of studies in the sports field, the MML is frequently used [20]. The LSS, established by [42], is widely regarded as one of the most comprehensive methods to sports leadership research. The LSS evaluates athletes' impressions of their coach, preferred leadership behaviour, and coaches' perceptions about themselves and has three components [44]. Only the athletes' perceived leadership behaviour was adapted from the three facets on the LSS for the purpose of this study.

The original LSS is divided into five (5) sub-scales that assess the decision-making style of a coach (Autocratic & Democratic), motivating tendencies (Positive feedback & Social support), and instructional behaviour (Instruction & Training). Two (2) of the five (5) dimensions of leadership behaviour are instruction and training (13 items). This aims to increase an athlete's recital by accentuating and monitoring difficult and demanding training, teaching them about the sport's talents, methods, and strategies, defining team affiliates' relationships, and structuring and controlling the team's operations [45], democratic conduct (9 items). This gave athletes more voice in team goals, methods for practice, and game plans and strategies, as well as autocratic conduct [46] and autocratic behaviour (5 items). This includes coaching behaviour that stresses personal power and independence in decision-making [47], as well as social support behaviour (8 items) which describes coaching behaviour that prioritizes the well-being of specific athletes, a positive group climate, and interactions and connections between team members [47], and positive feedback (5 items) - refers to the coaching behaviours that use acknowledgement and rewards to promote positive performance [45].

The questionnaire consisted of 40 questions, rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Twenty-nine (29) of the forty (40) items were adapted or modified to suit the subjects in this study. The study provided alpha values as indicators of internal consistency as markers of the LSS's reliability from athletes' perceived leadership in a study of Canadian athletes [42]. Training and Instruction received a 0.93, Social support 0.86, Autocratic Behaviour 0.59, Democratic Behaviour 0.87, and Positive Feedback of 0.92. The above values are much higher than the 0.70 suggested by [48] to be good to collect data with the exception of autocratic behaviour. Over the past 40 years the LSS has been slightly adapted by sports leadership researchers, though the major themes remain constant. Both the theory and tool are believed to be reliable and have strong validity [49]. The LSS and its variety of different approaches, the Revised Leadership Scale for Sport (RLSS), have been used in a number of studies, though there are several inconsistencies that have been recognized and documented by researchers who use the tools [44]. Few words were modified to suit the subjects apart from the 29 out of 40 items chosen for this study. For example, season was changed to inter-school and colleges season.

The measurement of athlete satisfaction was conducted using a revised edition of Riemer and Chelladurai's Athletes happiness Questionnaire (ASQ). The Athlete Satisfaction Questionnaire (ASQ) is a comprehensive survey consisting of 56 items, designed to assess the satisfaction levels of athletes across 15 different areas of fulfilment. The sub-scales consist of team performance (3 items), individual performance (3 items), tactic (6 items), Ability utilisation (5 items), training and instruction (3 items), personal treatment (5 items), team social contribution (3 items), team duty involvement (3 items), ethics (3 items), personal dedication (4 items), team amalgamation (4 items), budget (3 items), academic backing services (3 items), medical personnel (4 items), and outside agent (4 items). The ASQ is a 7-point Likert scale that was modified for this study to a 5-point Likert scale. ASQ covers important aspects of sports involvement, performance (team & individual), organization, team, leadership, and athlete [50]. Internal validity and reliability are assumed to exist. For the facets to be measured, The Cronbach's alpha value for ability utilisation is 0.92, indicating high internal consistency, 0.94 for strategy, 0.92 for personal treatment, 0.85 for individual performance, and 0.95 for team performance.

The above values are much higher than the 0.70 suggested by [48] to be good to collect data. The 5- point Likert scale differs slightly from the original ASQ. The original ASQ was based on a 7- point Likert scale but in order to reduce confusion for athletes it was adapted to a 5- Likert scale to match the RLSS [44]. The following is how the ASQ is graded: 'Not at all satisfied' is number 1. 2'satisfied to a degree' 3'satisfied in a reasonable way' 4 'extremely satisfied,' 5 'very satisfied'. To conceptualize coach leadership behaviour, twenty-one (21) items of the fifty-six (56) items and also five (5) of the fifteen (15) subscales were adapted for this study. In all, 50- item questionnaire was formulated.

The 50-item questionnaire was identified as follows: Training and instruction were scored by items 4,9,18,22 and 28, items 2,8,13,23 and 26 all scored autocratic behaviour of the coach from the LSS, items 5,11,16,21,25 and 27 scored social support behaviour of the coach from the LSS and items 1,6,10,12,15,17 and 20 all scored democratic behaviour of the coach from the LSS and positive feedback behaviour was scored by items 3,7,14,19,24 and 29. The third section measured athletes' satisfaction and performance which was split into five separate sub sections. These were ability utilization which was measured in items 30,37,41,45 and 48, Strategy was measured in items 34,39,42,46 and 49, items 33,38,43,47, and 50 measured personal treatment, items 31,35 and 40 measured individual performance and Team performance was measured by items 32,36 and 44.

For easy interpretation of the instrument used for the study, a Mean score greater than three (3) was perceived largely by student- athletes whilst a Mean score less than three (3) was perceived as not utilized. The two extreme options for the ASQ were collapsed for meaningful interpretation. For example, not at all satisfied and slightly satisfied merged as not satisfied and very satisfied and extremely satisfied as satisfied. The higher the mean value on a dimension, the more

it was perceived. For instance, 1 to 2.4 was not satisfied, 2.5 to 3.4 was moderately satisfied and greater than 3.5 was satisfied.

2.3. Procedure

The research was conducted with adherence to ethical norms before distributing the questionnaire. The researcher requested endorsement from the University of Cape Coast's Institutional Review Board (IRB). Before any data was collected, permission was obtained by UCC's IRB. The study's main data collection tool was a questionnaire. This information was gathered from student athletes in SHS Ashanti Region Ghana. To facilitate dialogue among the student athletes, a letter of introduction was sent to the Regional P.E. Coordinator from the Head of Department, Health, Physical Education and Recreation (HPER) and IRB, UCC. The letter was subsequently distributed to the directors of the sampled schools.

The researcher was in charge of administering the questionnaire. Two research assistants were trained to assist with the distribution of the questionnaires. Four (4) days were used to train the assistants. The researcher explained thoroughly all fifty (50) items of the questionnaire to the assistants. They asked questions which were answered carefully and correctly to avoid any misunderstanding. These assistants were taken through how to administer the questionnaire to an extent that even in the absence of the researcher, they could administer it on their own. The assistants prevented the occurrence of a scenario in which students would engage in discussions about the questionnaire and generate identical replies. Furthermore, the assistants facilitated the prompt retrieval of the surveys after they had been filled out. All the questionnaires were collected on the same day immediately after the student athletes had finished filling them out. The students need around 25 to 30 minutes to complete the questionnaire. The questionnaire was conducted between 15th August, 2023 and 15th November, 2023.

2.4. Data analysis

Statistical Package for Social Sciences (SPSS) version 25 was used to process the data. To evaluate the data, the researcher employed one-way MANOVA to test the hypothesis. The study's hypothesis was to see if male and female athletes' perceptions of coaches' leadership behaviour differed. The independent variable was the sex of the SHS athletes, while the outcome/criterion variable was the coaches' leadership behaviour (i.e., positive feedback, social support, autocratic behaviour, democratic behaviour, and training and instruction).

3. Results

3.1. Preliminary Data Screening

Assumptions underlying the use of MANOVA such as multivariate normality, multivariate outliers, and linearity were tested and verified using the Q-Q plots, mahalanobis distance analysis and scatter plot matrix.

The hypothesis sought to test whether the perceived coaches' leadership behaviours differed for male and female athletes. The sex of the SHS athletes was the independent variable, and the dependent/criterion variable was the coaches' leadership behaviour (i.e., positive feedback, social support, autocratic behaviour, democratic behaviour, and training and instruction). Table 3 shows the results of the multivariate test for the MANOVA.

Table 3 Multivariate Tests and Box Test

Effect	Value	F	Hypothesis df	Error df	Sig.
Intercept	0.992	25096.16	5	995	0.000
Gender	0.066	14.11	5	995	0.000*

Box's Test of Equality of Covariance Matrices

Box's M	101.089
F	6.703
df1	15

df2	4018232.7
	1
Sig.	0.000

Source: Field data, 2023; *significant at $p < .05$

As presented in Table 3, the findings indicated a violation of the box test of equality of covariance matrices, $F(15, 4018232.71) = 6.703, p < .001$. As a result, the Pillai's Trace estimates were presented. The multivariate outcomes, also in Table 3, revealed a noteworthy difference in perceived coaches' leadership behaviours for male and female SHS athletes., $F(5, 995) = 14.11, p < .001$. The results of the univariate analysis are shown in Table 4.

Table 4 Tests of Between-Subjects Effects Based on Sex

Source	Dependent Variable	Type III Sum of Squares	df	F	Sig.
Intercept	Positive feedback	20560.16	1	73001.58	0.000
	Democratic behaviour	13194.24	1	19393.21	0.000
	Training and instruction	20228.71	1	80801.03	0.000
	Autocratic behaviour	7674.77	1	10903.24	0.000
	Social support	17404.02	1	31384.06	0.000
	Gender	Positive feedback	4.41	1	15.671
Democratic behaviour		6.59	1	9.688	0.002*
Training and instruction		13.33	1	53.24	0.000*
Autocratic behaviour		5.81	1	8.25	0.004*
Social support		10.02	1	18.07	0.000*
Error		Positive feedback	281.36	999	
	Democratic behaviour	679.67	999		
	Training and instruction	250.10	999		
	Autocratic behaviour	703.20	999		
	Social support	553.99	999		
	Total	Positive feedback	20846.56	1001	
Democratic behaviour		13881.10	1001		
Training and instruction		20493.20	1001		
Autocratic behaviour		8384.20	1001		
Social support		17968.89	1001		

Source: Field data, 2020; significant at $p \leq .010$

As shown in Table 4, the results from the analysis revealed that perceived coaches' behaviours were influenced by the sex of SHS athletes: positive feedback ($F(1, 999) = 15.671, p < .001$), democratic behaviour ($F(1, 999) = 9.688, p = .002$),

training and instruction ($F(1, 999)=53.24, p<.001$), autocratic behaviour ($F(1, 999)=8.25, p=.004$), and social support style of leadership ($F(1, 999)=18.07, p<.001$).

A follow-up post-hoc analysis using Bonferroni approach was carried out by comparing the mean scores of male and female SHS athletes on the perceived coaches' leadership behaviours. Table 5 shows the details of the post hoc examination.

Table 5 Descriptive Statistics (Follow-up)

	Gender	Mean	SD	N
Positive feedback	Male	4.47	0.55	501
	Female	4.60	0.52	501
	Total	4.53	0.53	1002
Democratic behaviour	Male	3.55	0.84	501
	Female	3.71	0.81	501
	Total	3.63	0.83	1002
Training and instruction	Male	4.38	0.57	501
	Female	4.61	0.42	501
	Total	4.50	0.513	1002
Autocratic behaviour	Male	2.69	0.90	501
	Female	2.85	0.77	501
	Total	2.77	0.84	1002
Social support	Male	4.07	0.73	501
	Female	4.27	0.76	501
	Total	4.2	0.75	1002
Source: Field data, 2023				

Source: Field data, 2023

The follow-up results showed that female SHS athletes perceived more positive feedback behaviours of coaches with a high mean value ($M=4.60, SD=.52$) than their male counterparts ($M=4.47, SD=.55$). Similarly, the female athletes perceived that the coaches exhibited to them more of democratic behaviours ($M=3.71, SD=.81$) as compared to the male athletes ($M=3.55, SD=.84$). The results were similar for the perceived training and instruction as well as perceived social support dimension, where the athletes perceived those coaches showed more of such leadership behaviours to female athletes. Although the athletes perceived that the coaches showed less of autocratic leadership behaviours to both male ($M=2.70, SD=.90$) and female ($M=2.85, SD=.77$) athletes, such behaviours were perceived to be exhibited very little to male athletes

SHS athletes, while the dependent/criterion variable was the coaches' leadership behaviour (i.e., positive feedback, social support, autocratic behaviour, democratic behaviour, and training and instruction).

4. Discussion

Male and female players had different perceptions of their coaches' leadership behaviours. In research on differences between the sexes in youth sports, a number of confounding variables, such as athlete profile, type of sport, levels of competition, and culture have led to mixed results [12]. Coaches' roles were seen by their athletes at SHS in Ashanti Region to be more of democratic, positive feedback, training, and instruction as well as social support for female athletes than for male athletes. Female athletes, on the other hand, were said to perceive their coaches as being more autocratic than their male counterparts, owing to higher mean values. These findings exist because according to the multidimensional model of leadership, sex influences the behaviour of sport leaders. Mature and masculine athletes are

more serious about their games and believe sport to be demanding, because they see coaches who are well-organized and have persuasive decision-making qualities, which are frequently demonstrated by autocratic coaches [15].

The results of this paper aligns with the conclusions of earlier studies e.g. [51, 52]. For example, [34] discovered that leadership styles were perceived similarly by both sexes. Furthermore, [35] asserted that males and females exist in separate worlds, that society is sex-based, and that men and women act differently as society dictates. Female athletes had a more positive perception of their coaches' democratic coaching behavioural patterns and positive feedback than male athletes. This explains why the majority of female athletes want greater inclusion and interaction with their coaches [53]. [4] also found that sex has a significant impact on leadership in females compared to males. Also, compared to male players who perceived social support, situational considerations, and training and instruction from their coaches, female players perceived a higher degree of positive feedback, democratic behaviour, situational consideration, social support, and training and instruction [54]. Male and female athletes view coaching techniques differently [36, 52]. According to the findings of this and earlier studies, there is a significant difference in how females and males perceive leadership behaviour.

It is worth noting that the above-mentioned variances could be attributable to contextual factors. In the Ghanaian environment, it is not unexpected that ladies think their coaches give them favourable feedback, democratic training and instruction, and social support for authoritarian leadership behaviours. Males who are socialised to be violent [55], domineering [56], and power hungry are influenced by issues of power distance in Ghanaian society [57]. [58], for example, claims that women are marginalised when it comes to important decisions. As a result, culturally ingrained disparities have an impact on women's innate power relationships and gender roles, which stem from male-dominated cultural and social systems. Most men are influenced by such cultural inclinations to be autocratic and regard autocracy as a part of leadership behaviour. This viewpoint helps to explain why males choose autocratic leadership styles over females. This conclusion implies that males and females cannot be fairly represented, and that coaches/PE teachers must assess and determine the type of coaching behaviour that is appropriate for a particular sex. This method would aid coaches in maximizing performance and ensuring athlete pleasure.

Limitation

The study has some limitations. First and foremost, the research design used is cross-sectional in nature; it therefore restricts causality.

Secondly, the responses were self-reported therefore student athletes' might have overrated or underrated their responses when answering the items in the questionnaire which could have resulted in invalid answers.

Practical implications

The differences found across sex in how athletes perceive their coaches' leadership behaviours suggest that coaches; therefore, need to assume roles that are sex specific when handling their athletes. Hence, generalizing their leadership roles across sex could be counter-productive. For example, one sex characteristics may suffer from relational progress if coaches generalise their interactive roles when dealing with their athletes.

5. Conclusion

Female athletes in the Ashanti Region believed their coaches to be using more positive feedback, democratic, training, and instructions as well as social support behaviours; therefore, it suggest that coaches encourage athletes after a mistake, compliment good performances, let athletes work at their own speed, urge athletes to offer recommendations regarding how practices should be run, clarify to each athlete the methods and strategies of the sports, stipulate in details what is anticipated of each athlete, help affiliates of the group to settle their conflicts and remain sensitive to the needs of their athletes.

Compliance with ethical standards

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Disclosure of conflict of interest

The author affirms that he does not have any conflicting interests.

Statement of ethical approval

Ethical clearance was given by the Institutional Review Board, University of Cape Coast, Ghana, with a reference number of UCCIRB/EXT/2020/25. Permission was also pursued from the heads of the sampled institutions, who represented as caretakers, to gain admission to the research site.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

Declarations

The development of the manuscript to revision were solely done by the author.

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