Innovations

Attitudes of High school Students towards Physical Exercise

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***Abstract**: This study examines the attitudes of high school students toward physical exercise in the Tigray Region, Ethiopia. A total of 399 students (181 boys and 218 girls) were recruited from the Tigray region's high schools using multistage sampling technique. Attitudes were measured with Demirhan and Altay's 24-item Likert-scale instrument (strongly disagree-strongly agree). Demographic information, including gender, place of residence, distance from home to the nearest sports facility, parents' educational attainment, and number of siblings, was collected via a structured questionnaire. Descriptive statistics were calculated for all variables. Inferential analyses (e.g., ANOVA) indicated that attitude scores differed by fathers' educational attainment, residence location, and distance to a sports facility ($p < 0.05$). No significant differences were observed for mothers' educational attainment, gender, or number of siblings ($p > 0.05$). The overall attitude toward physical exercise was positive (mean = 92.21, SD = 14.25). The findings suggest that paternal education, residential context, and proximity to sports facilities influence students' attitudes toward physical exercise.*

***Keywords:** Adolescent health, Attitude, High school students, Physical exercise, Sports participation.*

Introduction:

Schools act as influential environments in shaping positive attitudes toward physical exercise by endorsing sports and providing exercise opportunities(Dechavez, 2024). Adolescence, a critical period for attitude formation, becomes pivotal in understanding and shaping students' attitudes toward physical exercise.

Studies reveal that attitudes towards physical exercise among teenagers are highly influenced by gender(Bingham et al., 2016; Lago-Ballesteros et al., 2021). Examining differences in attitudes based on gender can shed light on differences in levels of

physical exercise. A lot of research has been done on the impact of parental education on a child's lifestyle decisions, including whether or not to exercise(Orth et al., 2021; Van Der Horst et al., 2007). The purpose of this study is to add to the body of knowledge by examining the relationship between high school students' attitudes toward physical exercise and their parents' educational attainment.

Family dynamics, including the number of siblings, have been identified as potential determinants of adolescents' physical exercise behaviors(Määttä et al., 2014; Polatcan & Zurnacı, 2022).This research will explore whether the number of siblings within a family context influences the attitudes and participation of high school students in physical exercise.

Disparities in access to recreational facilities and opportunities for physical exercise have been linked to student living and geographic locations(Kegler et al., 2022; Sallis et al., 2018). This study intends to offer context-specific insights into the relationship between living areas and attitudes toward physical exercise by taking into account the living areas of high school students in the Tigray Region.

According to research(Howie et al., 2020; Patterson et al., 2019), teens' participation in physical exercise is significantly influenced by the accessibility and closeness of sports institutions. This study will look into how students' attitudes and levels of physical exercise participation may be affected by the distance between their homes and sports facilities in the Tigray Region.

There is a knowledge gap regarding high school students' attitudes toward physical exercise in the Tigray Region of Ethiopia, despite the importance of attitudes and the role of schools being acknowledged. By thoroughly evaluating high school students' attitudes toward physical exercise, this study seeks to close this gap and provide guidance for successful interventions and initiatives(Bibik et al., 2007). The results from these various points of view will help build a more thorough picture of the variables affecting high school students' attitudes toward physical exercise in the Tigray Region as the study goes on.

Material and Methods

Study Design and Participants: The study used a survey design that was carried out with high school students in Ethiopia's Tigray Region. There were 399 participants, 218 girls and 181 boys, ages 14 to 17 (M = 15.82, SD = 0.871). Ten secondary schools provided the participants, who were chosen using a multistage sampling technique.

Instruments: 1,Demographic information Participants provided personal information, including gender, parents' levels of filler education, number of siblings, place of residence, and the distance between students' homes and sports facilities. 2, Questionnaire: A questionnaire that was modified from the one created by (Demirhan and Altay, 2001) served as the main tool for data collection. In order to generate a score that could range from 24 to 120, this questionnaire used a 5-point Likert-type scale with responses ranging from 5 (strongly agree) to 1 (strongly disagree) for 24

items. According to the scale, there are five categories for attitudes: (i) the most negative attitude, (ii) the negative attitude, (iii) the neutral attitude, (iv) the positive attitude, and (v) the most positive attitude. For clarity, the questions were translated into the local language, Tigrigna. The scales showed an excellent validity (coefficient = 0.81) and high reliability (Cronbach Alpha = 0.95).

Procedures: Permission was obtained from teachers, directors, and vice-directors of the respective schools. Participants were informed about the study's objectives, and assurances of result confidentiality were provided. Questionnaires were distributed, and participants were given sufficient time for completion. All 399 questionnaires were returned.

Data analysis: Data analysis was conducted using SPSS version 20.0 software. The association between attitudes towards physical exercise and demographic variables (gender, place of residence, distance between home and sports facilities, parents' level of filler education, and number of siblings) was examined using statistical methods, including mean, standard deviation, and ANOVA. The significance level of $P < 0.05$ was considered statistically significant.

Results

Table 1: Descriptive Statistics of Attitude Scores of high School students as entirely

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Attitude	399	63.00	57.00	120.00	92.2180	14.24781

Table 1 displays the descriptive statistics of attitude scores among high school students in the Tigray Region, Ethiopia. The minimum score recorded was 57, maximum was 120, and the range covered 63 points. The mean attitude score was 92.21, with a standard deviation of 14.24. According to(Bechler et al., 2021), the range of attitudes extended from neutral (57) to a highly positive (120), and the mean fell under the category of positive attitudes. In summary, the results indicate that high school students in the Tigray Region generally exhibit a positive attitude towards physical exercise.

Table 2: Demographic comparison of high school students on attitude to words physical exercise

Variables		**High school students average Attitude (Mean ± SD)**	**N**	**P value**
Gender	Male	92.6278 ± 14.75764	180	

	Female	92.4817 ± 14.38548	218	0.921
Residence	Urban	94.7238 ± 13.78859	239	0.000
	Rural	89.2767 ± 15.05472	159	
Distance between students home and sport facility	Less than 2 kilo meter	95.7887 ± 13.44348	194	0.000
	From 2 -4 kilo meter	91.6387 ± 15.26197	119	
	More than 4 kilo meter	86.8889 ± 13.82660	81	
Siblings	None	93.0000 ± 17.50374	22	0.870
	One - two	92.5094 ± 15.20729	106	
	Three - four	93.2055 ± 14.39680	146	
	Five & above	91.7258 ± 13.66578	124	
Fathers level of education	Degree & above	100.0690 ± 10.02116	29	0.000
	Secondary education	96.3056 ± 15.58587	72	
	Primary education	92.7986 ± 13.40191	139	
	Illiterate	89.5804 ± 14.71390	143	
	Diploma	85.9333 ± 16.30717	15	
Mothers level of education	Secondary education	96.8095 ± 15.31798	63	0.053
	Degree & above	96.5000 ± 13.13685	14	
	Diploma	93.2500 ± 16.21316	16	
	Primary education	92.4839 ± 14.85950	124	
	Illiterate	90.7403 ± 13.75112	181	

Gender Differences: The mean, standard deviation, and p-values for comparisons based on gender are shown in Table 2. With mean scores of 92.62 ± 14.75 for male students and 92.48 ± 14.38 for female students, respectively, both genders of students showed very positive attitudes toward physical exercise. No statistically significant difference ($p < 0.05$) was found in the attitude scores of male and female students.

Residence Disparities: When comparing attitudes based on residence, urban students exhibited a more positive attitude (94.72 ± 13.78) than to rural students (89.27 ± 15.05). Statistical differences were observed, indicating that residence influences students' attitudes toward physical exercise ($p < 0.05$).
Distance from home to sports facility: Table 2 compares attitude scores based on the distance between students' homes and sports facilities. Students living within 2 kilometers showed the highest attitude scores (95.78 ± 13.44), however, the smallest attitude was more than 4 kilometers away (86.88 ± 13.82). Significant differences were found based on the distance from home to the sports facility ($p < 0.05$).
Sibling Influence: When comparing students' attitude scores according to the number of siblings, no statistically significant differences were found ($p < 0.05$). Concerning attitude, students who had three or four siblings scored the highest (93.20 ± 14.39), then no siblings (93.00 ± 17.50), one or two siblings (92.50 ± 15.20), and five or more siblings (91.72 ± 13.66).
Parental Education Impact: Students whose Fathers had a degree and above education showed the highest attitude scores (100.06 ± 10.02), followed by those with secondary education (96.30 ± 15.58), however the smallest attitude was a diploma (85.93 ± 16.30). The statistical analysis revealed significant differences based on Father's level of education ($p <0.05$).
Maternal influence: A comparison of Attitude scores according to mothers' educational attainment is shown in Table 2. The students whose mothers had completed secondary education had the best attitude scores (96.80 ± 15.31) and degrees and above (96.50 ± 3.13); however, the smallest attitude was illiterate (90.74 ±13.75). Based on mothers' educational attainment, no statistically significant differences were found ($p < 0.05$).

Discussion

Contrary to some studies, our research found no statistically significant differences in attitude scores between male and female students(Atan & Imamoglu, 2016; Çoknaz, 2015; Eraslan, 2015; Keskin et al., 2017; Lago-Ballesteros et al., 2021),indicating that gender did not significantly impact attitudes toward physical activity.

Our study also reveals significant differences between students residing in towns and those in villages. This finding echoes prior work conducted in Sparta (Eraslan, 2015; McCrorie et al., 2020)and aligns with the idea that access to sports facilities varies by rural-urban context and can influence attitudes toward physical activity (Hoekman et al., 2017).

Distance from home to sports facilities emerged as a critical factor influencing attitudes. Similar results have been reported by (Feng & Humphreys, 2012; Reimers et al., 2014), indicating that decreased distance positively correlates with higher

attitude scores. This underscores the importance of accessible sports facilities in fostering positive attitudes towards physical exercise.

There was no significant difference in attitudes based on the number of siblings, consistent with findings in Turkey (Atan & Imamoglu, 2016). This suggests that family size may not be a substantial determinant of attitudes toward physical exercise.

In contrast, significant differences were detected based on the father's level of education, with higher paternal education associated with more positive attitudes. This mirrors findings in Turkey (Atalay, 2016; Dorsch et al., 2021)but contradicts the results reported by by(Atan & Imamoglu, 2016)highlighting potential influences of sample size and regional variation.

Interestingly, no significant difference was found based on maternal education in our study, in line with(Bustamante-Sanchez et al., 2022; Johnson et al., 2021). However,(Männikkö et al., 2020)reported differing results, suggesting that socioeconomic factors and sample characteristics may contribute to variations in the influence of maternal education on attitudes toward sports participation.

Conclusion

In conclusion, high school students in the Tigray Region of Ethiopia generally exhibit positive and very similar attitudes toward physical exercise, consistent with prior research. However, notable variations were observed based on factors such as residential area, parental education levels, and proximity to sports facilities.

Students residing in towns demonstrated more positive attitudes, possibly due to greater awareness and better access to facilities. The positive association between parental education levels and students' attitudes toward physical exercise suggests that caregiver education influences health-related behaviors during adolescence.

Moreover, distance to sports facilities had a major impact on attitudes: as distance decreases, positive attitudes toward physical exercise increase. This underscores the importance of accessibility in shaping students' perceptions and habits.

Promoting positive attitudes toward physical exercise during high school emerges as a crucial strategy for fostering lifelong healthy habits. Adolescence is a pivotal period for developing health-related behaviors, presenting an opportune time for intervention and education.

Given these insights, creating a supportive environment that encourages daily physical exercise as a routine part of students' lives can contribute to reducing

chronic disease risk. As we strive to enhance the well-being of high school students in the Tigray Region, educators, policymakers, and community leaders should recognize the importance of promoting positive attitudes toward physical exercise and integrate effective strategies into educational programs.

Limitations and future directions

It is crucial to acknowledge the limitations of this study, including sample size and regional specificity. Future research should delve deeper into socio-cultural aspects, considering the diverse landscape of the Tigray Region, and explore the long-term effects of interventions aimed at enhancing positive attitudes towards physical exercise.

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