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Physical activity habits, self-efficacy, and attitudes toward physical activity among elementary school students: A correlational study

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Abstract. This study examined the relationships between physical activity participation characteristics, self-efficacy, and attitudes toward physical activity among elementary school students. The study employed a correlational survey design and included 428 students. Data were collected using the Children's Self-Efficacy Scale and the Physical Activity Attitude Scale. Independent-samples t-tests, one-way analyses of variance (ANOVA), Tukey HSD post-hoc tests, and Pearson correlation analyses were conducted. No statistically significant differences were found in physical activity attitude scores according to gender or previous sports club participation ($p > 0.05$). Students with a family member who participates in sports had higher positive attitude scores ($t = 4.712$, $p < 0.001$), whereas negative attitude scores did not differ ($p > 0.05$). A significant difference was found in the academic achievement dimension of self-efficacy according to sport of interest ($F = 2.360$, $p = 0.022$, $\eta^2 = .038$), while the difference in social/learning behaviors was at the significance threshold ($F = 2.029$, $p = 0.050$, $\eta^2 = 0.033$). No significant differences were found according to duration of regular exercise or weekly exercise frequency ($p > 0.05$). Positive and negative physical activity attitude scores were significantly related to all four self-efficacy subdimensions. Because lower scores on the self-efficacy scale indicate higher self-efficacy, the negative correlations should be interpreted accordingly. Overall, the findings indicate associations among physical activity attitudes, physical activity participation characteristics, and academic self-efficacy indicators; they do not establish causal effects or the effectiveness of a sports talent screening program.

Introduction

Physical activity is an important component of children's physical, cognitive, emotional, and social development. During the elementary school years, opportunities to participate in sports and physical activity may be associated with children's motivation, perceptions of competence, academic functioning, and social development. Physical activity has also been associated with lower social anxiety and fewer sleep problems among adolescents and young people (Solmaz et al., 2025). Accordingly, understanding the psychosocial characteristics associated with physical activity participation is important for both school-based physical activity practices and the broader development of children.

Self-efficacy refers to an individual's belief in their capability to organize and execute the actions required to manage prospective situations (Bandura, 1997). In childhood, self-efficacy is related to persistence, motivation, and engagement in learning and activity contexts. The present study uses the Turkish adaptation of the Children's Self-Efficacy Scale developed by Martinelli et al. (2009) and adapted by Başol (2010). Importantly, the dimensions assessed by this instrument are academic achievement, subject skills, study habits, and social/learning behaviors. Therefore, in the present study, self-efficacy is conceptualized as academic and school-related self-efficacy rather than sport-specific self-efficacy or perceived motor competence.

Research on physical activity indicates that self-efficacy can be related to participation, persistence, and the interpretation of performance experiences. Chase (2001) reported that children with higher self-efficacy were more likely to persist following unsuccessful experiences in physical education and sport. Morano et al. (2019) likewise identified self-efficacy and enjoyment as relevant psychological variables in children's physical activity. These

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findings provide a rationale for examining self-efficacy alongside physical activity characteristics, while recognizing that the present study does not measure sport-specific self-efficacy.

Although self-efficacy beliefs are generally considered domain-specific, Bandura (1997) identified mastery experiences, social persuasion, and the interpretation of physiological and emotional states as key sources of such beliefs. Consequently, it is hypothesized that the effort and competence experiences gained through physical activity may be linked to academic achievement and social learning behaviors. Indeed, physical activity settings are thought to provide children with opportunities to exert effort, encounter challenges, make progress, and cope with setbacks. These experiences may be associated with children's beliefs regarding their own abilities to manage academic and learning-related demands. Similarly, expectancy-value models suggest that while children's beliefs about their competence in different domains remain conceptually distinct, they may nonetheless be interrelated (Eccles & Wigfield, 2002). Since attitudes toward physical activity reflect children's evaluations of such activities, it is plausible that these attitudes—even if not directly related to sports or motor performance—could be associated with self-efficacy beliefs concerning academic and learning-related tasks. In this context, the present study examines this relationship through various theoretical lenses.

Attitudes toward physical activity reflect an individual's positive or negative evaluations of exercise. These attitudes are believed to be linked to participation in physical activity and related behaviors. Previous research has addressed various facets of this field. Aydoğan et al. (2016) examined the attitudes and self-efficacy of primary school students toward physical education classes and found a positive relationship between the two. Yıldızer et al. (2019) developed a scale to assess the attitudes of middle school students toward physical activity. While these studies have made significant contributions to the examination of attitudes in the fields of physical activity and physical education, they did not address specific characteristics such as the duration and frequency of regular exercise. In the present study, attitudes toward physical activity are examined in relation to various aspects of sports participation, and the associations between these attitudes and school-related self-efficacy—encompassing areas such as academic achievement and social learning behaviors—are investigated.

Physical activity participation may also be associated with social environments. Family support, participation in organized sports activities, school experiences, and opportunities to engage in different sports may shape children's physical activity experiences. For example, parental support has been associated with children's attitudes toward school sports (Milošević et al., 2024), while a relationship between fundamental movement skills and physical activity has been reported (Holfelder & Schott, 2014). These findings support examining physical activity participation characteristics alongside children's attitudes and school-related self-efficacy.

The purpose of this study is to examine whether primary school students' positive and negative attitudes toward physical activity differ based on gender, prior participation in a sports club, and the presence of a family member who engages in sports; whether self-efficacy—in terms of academic achievement, subject-specific skills, study habits, and social learning behaviors—varies according to the duration of regular exercise, the specific sport practiced, and the weekly frequency of exercise; and to investigate the relationships between attitudes toward physical activity and self-efficacy.

Materials and Methods

Research Model

This study used a correlational survey design to examine associations among physical activity participation characteristics, attitudes toward physical activity, and school-related self-efficacy. The design was selected because the study variables were measured at a single period and no experimental manipulation or longitudinal follow-up was conducted. Therefore, the findings are interpreted as associations rather than causal effects.

Research Group

This correlational study's population consists of students who participated in a talent screening program in Istanbul during the 2025–2026 academic year. The sample group comprises 428 individuals—207 females and 221 males—from various districts who volunteered to take part in the talent screening. Participants were included in the study on a voluntary basis; during the data collection process, parents were informed in accordance with ethical guidelines, and their informed consent was obtained. The selection of the study group was based on the criterion that the individuals were students actively participating in the talent screening. The research

commenced following the receipt of ethical committee approval and the granting of authorization from the Ministry of Youth and Sports, Directorate of Education, Research, and Coordination, dated December 3, 2025.

Table 1. Frequency Distributions of Participants' Sports Habits and Demographic Characteristics.

Groups	Frequency	Percent	Valid Percent	Cumulative Percent
Gender				
Male	221	51.6	51.6	51.6
Female	207	48.4	48.4	100.0
Grade				
3rd Grade	79	18.5	18.5	18.5
4th Grade	315	73.6	73.6	92.1
5th Grade	33	7.7	7.7	99.8
Other Grades	1	0.2	0.2	100.0
How long have you been exercising regularly?				
I don't exercise at all	159	37.1	37.1	37.1
I've been exercising for 1 year or less	114	26.6	26.6	63.8
I've been exercising for 1–2 years	86	20.1	20.1	83.9
I've been exercising for 3 years or more	69	16.1	16.1	100.0
Which sport(s) are you interested in?				
None	7	1.6	1.6	1.6
Track and Field	30	7.0	7.0	8.6
Basketball	29	6.8	6.8	15.4
Boxing	7	1.6	1.6	17.1
Soccer	168	39.3	39.3	56.3
Volleyball	98	22.9	22.9	79.2
Swimming	21	4.9	4.9	84.1
Other Sports	68	15.9	15.9	100.0
Have You Ever Joined a Sports Club or Organization?				
Yes	200	46.7	46.7	46.7
No	228	53.3	53.3	100.0
How Many Days a Week Do You Exercise?				
I Don't Exercise at All	100	23.4	23.4	23.4
1–2 Days a Week	164	38.3	38.3	61.7
3–4 Days a Week	89	20.8	20.8	82.5
5 Days or More	75	17.5	17.5	100.0
Is There Anyone in Your Family Who Participates in Sports?				
Yes	175	40.9	40.9	40.9
No	253	59.1	59.1	100.0

The sample included 51.6% boys and 48.4% girls, with 73.6% of participants in Grade 4. Regarding regular exercise duration, 37.1% reported no regular exercise, 26.6% reported one year or less, 20.1% reported 1–2 years, and 16.1% reported three years or more. Soccer was the most frequently reported sport of interest (39.3%), followed by volleyball (22.9%). In total, 46.7% reported previous membership in a sports club or organization, while 53.3% reported no such membership. With respect to weekly frequency, 23.4% reported no exercise, 38.3% exercised 1–2 days, 20.8% exercised 3–4 days, and 17.5% exercised five or more days per week. A total of 40.9% reported having a family member who participates in sports, whereas 59.1% reported none.

The distribution of regular exercise duration indicates that a substantial proportion of participants reported no regular exercise. The relatively smaller proportion reporting three or more years of regular exercise suggests variation in prior physical activity experience within the sample.

Soccer and volleyball were the most frequently reported sports of interest. Because several categories were small, particularly the 'None' and boxing groups (n = 7 each), comparisons involving these groups should be interpreted cautiously.

More than half of the participants reported no previous membership in a sports club or organization. Weekly exercise was most commonly reported as 1–2 days, while fewer students reported exercising five or more days per week.

Most participants (59.1%) reported that no family member participated in sports. This variable was included as a contextual characteristic of participants' physical activity environments.

Research Ethics

The necessary ethical approval was obtained from the Siirt University Scientific Research and Publication Ethics Committee (Decision No. 10064, dated October 9, 2025).

Data Collection Tools

Personal Information Form

The Personal Information Form assessed gender, age, grade level, duration of regular physical activity, weekly frequency of physical activity, preferred sport, sports club participation, family sports participation, and parents' educational status. Age and parents' educational status were not included in the analyses reported in the present manuscript.

Children's Self-Efficacy Scale

The Children's Self-Efficacy Scale was originally developed by Martinelli et al. (2009) and adapted into Turkish by Başol (2010). The scale assesses four school-related dimensions in the present analysis: academic achievement, subject skills, study habits, and social/learning behaviors. Higher self-efficacy is represented by lower scores on the scoring system used in this study. This scoring direction is important for interpreting the negative correlations reported below. The original manuscript reports reliability coefficients from the scale development and adaptation studies.

Physical Activity Attitude Scale

The Physical Activity Attitude Scale used in the study was originally developed by Simonton et al.(2021) to assess attitudes toward physical activity among children and adolescents in elementary and middle schools; its Turkish adaptation was conducted by Uyhan et al. (2023). During the adaptation process, exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were applied, and it was determined that the scale consists of 12 items and two subscales, just as in its original form. The scale includes 7 positive and 5 negative items. Questions 8, 9, 10, 11, and 12 on the Physical Activity Attitude Scale consist of negatively worded items. They were rescored using reverse scoring. To determine the scale's reliability, Cronbach's Alpha coefficient and the test-retest method were used. Cronbach's Alpha values were found to be .85 for the positive subscale and .80 for the negative subscale. Test-retest correlation coefficients were reported as .87 for the positive subscale and .84 for the negative subscale. These findings indicate that the scale possesses adequate internal consistency and is a reliable measurement tool.

Data Analysis

Data were analyzed using descriptive statistics, independent-samples t-tests, one-way ANOVA, Tukey HSD post-hoc tests where variances were homogeneously distributed and ANOVA was statistically significant, and Pearson correlation coefficients. Normality was evaluated using Kolmogorov–Smirnov and Shapiro–Wilk tests. Statistical significance was set at $p < .05$. Effect sizes were calculated as Cohen's d for two-group comparisons and eta squared (η^2) for one-way ANOVA comparisons.

Results

According to the results of the independent samples t-test comparing participants' positive and negative attitude scores by gender, the mean positive attitude score was x=4.482±0.557 for men and x=4.403±0.531 for women. The analysis revealed no statistically significant difference between the groups (t=1.504; p=0.133). The mean negative attitude scores were found to be x=4.291±0.650 for men and x=4.224±0.575 for women, and it was determined that the difference between the groups was not significant (t=1.131; p=0.259).

In the analysis based on prior participation in a sports club or organization, the mean positive attitude scores were x=4.459±0.633 for those who answered "yes" and x=4.430±0.457 for those who answered "no." It was determined that the difference between the groups was not significant (t=0.543; p=0.587). The mean negative attitude scores were x=4.298±0.703 and x=4.225±0.524, respectively, and the analysis revealed no significant difference (t=1.234; p=0.218).

The mean positive attitude scores, based on whether there was a family member who engaged in sports, were calculated as x=4.507±0.490 for the "yes" group and x=4.285±0.452 for the "no" group. The difference was significant in favor of students with a

family member who engages in sports (t=4.712; p<0.001). The mean negative attitude scores were found to be x = 4.261 ± 0.606 for participants with family members who engage in sports and x = 4.225 ± 0.459 for those without, and no significant difference was observed between the groups (t = 0.699; p = 0.485).

Table 2. Comparison of Participants' Positive and Negative Attitude Scores Toward Physical Activity According to Certain Variables.

Groups	Positive Attitude					Negative Attitude			
Gender	**n**	**x**	**SD**	**t**	**p**	**x**	**SD**	**t**	**p**
Male	221	4.482	0.557	1.504	0.133	4.291	0.650	1.131	0.259
Female	207	4.403	0.531			4.224	0.575		
Have You Ever Been a Member of a Sports Club or Organization?									
Yes	200	4.459	0.633	0.543	0.587	4.298	0.703	1.234	0.218
No	228	4.430	0.457			4.225	0.524		
Is There Anyone in Your Family Who Plays Sports?									
Yes	175	4.507	0.490	4.712	<.001	4.261	0.606	0.699	0.485
No	253	4.285	0.452			4.225	0.459		

Table 3. ANOVA Results for Self-Efficacy Subdimensions According to Characteristics of Physical Activity Participation.

Groups	Academic Achievement			Subject Skills		Study Habits		Social/Learning Behaviors	
	n	**x**	**SD**	**X**	**SD**	**X**	**SD**	**X**	**SD**
How Long Have You Been Exercising Regularly?									
I Don't Exercise at All	159	2.256	0.734	2.300	0.775	2.226	0.774	1.876	0.857
I've Been Exercising for 1 Year or Less	114	2.279	0.671	2.325	0.783	2.233	0.832	1.819	0.769
I've Been Exercising for 1–2 Years	86	2.160	0.664	2.076	0.638	2.109	0.775	1.763	0.755
I've Been Exercising for 3 Years or More	69	2.315	0.601	2.243	0.618	2.119	0.743	1.734	0.839
		F=0.777	p = 0.507	F=2.298	p = 0.077	F=0.720	p=0.540	F=0.647	p=0.585
Which Sport(s) Are You Interested In?									
None	7	2.607	0.318	2.714	0.770	2.571	1.016	2.666	1.053
Track and Field	30	2.058	0.739	2.408	0.730	2.027	0.700	1.821	0.892
Basketball	29	2.069	0.586	2.017	0.578	2.166	0.717	1.563	0.679
Boxing	7	2.750	0.968	2.786	0.929	2.200	0.766	2.143	1.122
Soccer	168	2.208	0.701	2.284	0.780	2.223	0.772	1.788	0.775
Volleyball	98	2.283	0.617	2.235	0.682	2.265	0.916	1.905	0.843
Swimming	21	2.583	0.532	2.286	0.476	2.229	0.646	1.857	0.827
Other Sports	68	2.290	0.726	2.118	0.736	2.015	0.673	1.725	0.755
		F=2.360	p=0.022	F=1.975	p=0.057	F=1.090	p=0.368	F=2.029	p = 0.050
How Many Days a Week Do You Exercise?									
None	100	2.258	0.727	2.403	0.807	2.274	0.934	1.873	0.892
1–2 days	164	2.201	0.689	2.178	0.685	2.160	0.724	1.833	0.767
3–4 days	89	2.275	0.710	2.202	0.769	2.207	0.766	1.753	0.783
5 Days or More	75	2.330	0.571	2.273	0.658	2.109	0.715	1.773	0.829
		F=0.663	p=0.575	F=2.142	p=0.094	F=0.739	p=0.529	F=0.440	p=0.725

For regular exercise duration, no statistically significant differences were found in social/learning behaviors (F = 0.647, p = .585, η^2 = .005), study habits (F = 0.720, p = .0540, η^2 = .005), academic achievement (F = 0.777, p = 0.507, η^2 = 0.005), or subject skills (F = 2.298, p = 0.077, η^2 = 0.016). Sport of interest was associated with academic achievement scores, F = 2.360, p = .022, η^2 = .038. Upon examining the Tukey HSD test results, there is no statistically significant

difference in academic achievement scores between the 'None' group and the boxing group ($p > .05$).

For social/learning behaviors, the ANOVA was at the significance threshold ($F = 2.029$, $p = .050$, $\eta^2 = .033$). The Tukey HSD analysis identified a difference between the 'None' group and the basketball group ($p = .026$). No statistically significant difference was found in study habits according to sport of interest, $F = 1.090$, $p = 0.368$, $\eta^2 = 0.018$. No statistically significant difference was found in subject skills according to sport of interest, $F = 1.975$, $p = .057$, $\eta^2 = .032$. No statistically significant differences were found according to weekly exercise frequency in academic achievement ($F = 0.663$, $p = .575$, $\eta^2 = .005$), subject skills ($F = 2.142$, $p = .094$, $\eta^2 = 0.015$), study habits ($F = 0.739$, $p = 0.529$, $\eta^2 = 0.005$), or social/learning behaviors ($F = 0.440$, $p = 0.725$, $\eta^2 = .003$).

Table 4. Results of the Pearson Correlation Analysis Between Self-Efficacy and Attitudes Toward Physical Activity

			Pearson's r		p
negative attitude	-	positive attitude	0.532	***	< 0.001
negative attitude	-	social/learning behaviors	-0.189	***	< 0.001
negative attitude	-	academic achievement	-0.240	***	< 0.001
negative attitude	-	subject skills	-0.238	***	< 0.001
negative attitude	-	study habits	-0.155	**	0.001
positive attitude	-	social/learning behaviors	-0.286	***	< 0.001
positive attitude	-	academic achievement	-0.182	***	< 0.001
positive attitude	-	subject skills	-0.229	***	< 0.001
positive attitude	-	study habits	-0.219	***	< 0.001
social/learning behaviors	-	academic achievement	0.231	***	< 0.001
social/learning behaviors	-	subject skills	0.319	***	< 0.001
social/learning behaviors	-	study habits	0.379	***	< 00.001
academic achievement	-	subject skills	0.496	***	< .001
academic achievement	-	study habits	0.333	***	< 0.001
subject skills	-	study habits	0.259	***	< 0.001

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

According to the results of the correlation analysis, statistically significant relationships were found among the variables. A moderate, positive, and significant relationship was found between negative attitude and positive attitude ($r=0.532$; $p<0.001$). However, negative attitude was found to have a negative and low-level significant relationship with social/learning behaviors ($r = -0.189$; $p < 0.001$), academic achievement ($r = -0.240$; $p < 0.001$), subject skills ($r = -0.238$; $p < 0.001$), and study habits ($r = -0.155$; $p=0.001$).

Positive attitude, on the other hand, was found to have a negative and low-level significant relationship with social/learning behaviors ($r=-0.286$; $p<0.001$), academic achievement ($r=-0.182$; $p<0.001$), academic skills ($r=-0.229$; $p<0.001$), and study habits ($r=-0.219$; $p<0.001$).

Significant positive correlations were found between social/learning behaviors and academic achievement ($r=0.231$; $p<0.001$), subject skills ($r=0.319$; $p<0.001$), and study habits ($r=0.379$; $p<0.001$). Additionally, a moderate positive and statistically significant relationship was found between academic achievement and subject skills ($r=0.496$; $p<0.001$), and a low-level positive and statistically significant relationship was found between academic achievement and study habits ($r=0.333$; $p<0.001$). A low-level, positive, and significant correlation was also observed between subject skills and study habits ($r=0.259$; $p<0.001$).

Discussion and Conclusion

The present study examined the relationships between physical activity attitudes and school-related self-efficacy dimensions among elementary school students. The findings revealed that positive and negative attitudes toward physical activity did not differ significantly according to gender or previous participation in a sports club or organization. Students with a family member who

engages in sports reported more positive attitudes toward physical activity. No statistically significant differences were identified in the dimensions of academic achievement, subject-specific skills, study habits, and social/learning behaviors according to the duration of regular sports participation or the frequency of weekly sports activities. In contrast, a significant difference in the academic achievement dimension and a borderline difference in the social/learning behaviors dimension were observed according to students' sport disciplines of interest. In addition, significant correlations were found between physical activity attitudes and the self-efficacy subdimensions. These findings suggest that physical activity attitudes and students' perceptions of their capabilities in school-related domains may be associated. However, because of the cross-sectional and correlational design of the study, these relationships cannot be interpreted causally.

The absence of statistically significant gender differences in physical activity attitudes indicates that the attitudes of male and female students did not differ significantly in the present sample. This finding suggests that physical activity attitudes may not be adequately explained by gender alone. Children's experiences of physical activity may be associated with various contextual factors, including opportunities provided by schools, family and peer support, previous sports experiences, and access to physical activity opportunities. Nevertheless, because these variables were not all directly assessed in the present study, such explanations should be considered potential interpretations rather than established findings.

Research on the assessment of physical activity attitudes among children and adolescents also highlights the importance of evaluating attitudes using valid and reliable measurement instruments. Uyhan et al. (2023) conducted a Turkish validity and reliability study of the Physical Activity Attitude Scale for Children and Adolescents among students aged 9–14 years and reported that the scale could be used to assess children's attitudes toward physical activity. Such studies emphasize the importance of examining physical activity attitudes in relation to children's developmental characteristics and educational environments. However, comparisons across studies require consideration of the scope, subdimensions, and scoring procedures of the measurement instruments used.

The absence of significant gender differences in the present study should not be interpreted as evidence that gender-related differences in physical activity participation never occur. Physical activity participation and attitudes toward physical activity are distinct constructs. Students may have similar attitudes while differing in their opportunities to participate in physical activity, activity preferences, or environmental circumstances. Therefore, future studies could contribute to a more comprehensive understanding of gender-related patterns by examining physical activity attitudes alongside actual physical activity levels, participation frequency, perceived competence, and access to activity opportunities.

The absence of significant differences in physical activity attitudes according to previous participation in a sports club or organization is another important finding. Organized sports environments may provide children with opportunities to develop motor skills, interact with peers, and work toward shared goals. However, these opportunities should not be expected to be associated with identical attitude patterns among all children. The duration and quality of sports experiences, enjoyment of activities, relationships with coaches and peers, and perceived competence may all be relevant to how children evaluate their sports experiences. The absence of significant differences in the present study indicates that previous sports club participation alone was insufficient to distinguish students' physical activity attitudes.

This finding should also be considered in the context of the literature examining relationships between sports participation and psychosocial development. In a systematic review examining the psychological and social outcomes of sports participation among children and adolescents, Wade et al. (2026) reported that organized sports participation was associated with higher self-esteem, life satisfaction, interpersonal skills, and a sense of belonging. The review also indicated that team sports showed more consistent associations with certain psychological and social outcomes. However, because these studies involved different samples and outcome variables, their findings do not directly contradict the absence of significant differences in physical activity attitudes according to sports club participation in the present study. Instead, they highlight the importance of distinguishing between the specific outcomes associated with sports participation. An association between sports participation and social development does not

necessarily imply that physical activity attitudes will differ.

Students who had a family member engaged in sports reported more positive attitudes toward physical activity than those who did not, whereas negative attitude scores did not differ. This finding should be considered in relation to the existing literature. Families may provide support, encouragement, opportunities for joint activities, and behavioral models that are relevant to children's physical activity habits. Rhodes et al. (2020), in their systematic review of parental support for children's and adolescents' physical activity, examined factors associated with parental support, including supportive parental behaviors, perceptions of environmental safety, and characteristics of children. Similarly, a meta-analysis examining parental influence on children's and adolescents' physical activity levels reported a positive association between positive parental influence and physical activity levels (Su et al., 2022).

These studies suggest that family support may be relevant to children's physical activity behaviors. However, the variable examined in the present study was not the level of parental support or family physical activity practices, but rather whether students had a family member who engaged in sports. These variables do not represent the same construct. A family member's participation in sports does not necessarily indicate that the child receives direct support or regularly participates in physical activity with that person. The difference observed in the present study is consistent with this literature; however, it should not be interpreted as evidence of a direct effect of family support. Future studies should assess the quality of family support, parental participation in physical activity, the frequency of shared activities, and children's perceived social support as separate variables.

Regarding self-efficacy, no statistically significant differences were identified in the dimensions of academic achievement, subject-specific skills, study habits, and social/learning behaviors according to the duration of regular sports participation or the frequency of weekly sports activities. These findings indicate that the examined indicators of sports participation were not significantly associated with differences in self-efficacy dimensions in the present sample. Nevertheless, the literature examining physical activity participation and self-efficacy suggests that this relationship does not necessarily emerge in the same direction or magnitude across all studies. A systematic review examining physical activity interventions and self-efficacy among young people reported increases in self-efficacy following interventions in six of the ten included studies, whereas four studies found no significant effects (Impact of Physical Activity Intervention Programs on Self-Efficacy in Youths, 2013). These findings suggest that associations between physical activity and self-efficacy may vary according to study design, intervention characteristics, and measurement procedures.

The methodological distinction between these studies and the present research is important. The systematic review evaluated physical activity interventions, whereas the present study compared self-efficacy scores across categories of sports participation duration and weekly participation frequency. Measuring self-efficacy before and after participation in a specific physical activity program does not address the same research question as comparing students from different participation categories in a cross-sectional study. Therefore, the absence of significant differences in the present study does not demonstrate that physical activity programs cannot be associated with meaningful self-efficacy outcomes under other conditions. For example, a six-week structured basketball skills program was associated with higher mental toughness and lower competitive anxiety in young players (Yazıcı et al., 2026). Rather, it suggests that the sports participation indicators examined were insufficient to distinguish the self-efficacy dimensions in this sample.

At this point, the scoring direction of the self-efficacy scale is particularly important. Because lower scores indicate higher self-efficacy in the present study, higher mean scores on the academic achievement subdimension represent lower self-efficacy rather than higher self-efficacy. Accordingly, the higher mean scores observed among students who had participated in sports for three years or longer or engaged in sports activities five or more days per week should not be interpreted as evidence of greater academic achievement. Furthermore, if the differences between these groups are not statistically significant, mean score patterns alone should not be used to conclude that their self-efficacy levels differ. The academic achievement subdimension also represents students' perceptions of their capabilities rather than their actual academic performance. Therefore, it should not be treated as equivalent to school grades, examination results, or other objective indicators of academic achievement.

Systematic reviews examining the relationship between physical activity and academic performance further highlight the importance of this distinction. In their systematic review of physical activity and academic performance among school-aged children, James et al. (2023) reported that study findings were predominantly positive or statistically nonsignificant. Similarly, He et al. (2025), in a systematic review and meta-analysis of school-based physical activity programs, reported small positive associations between physical activity programs and academic achievement, although substantial heterogeneity was observed in some analyses. These findings suggest that physical activity may be associated with academic performance; however, the academic achievement variable in the present study was a self-efficacy subdimension. Consequently, the results of these studies cannot be directly compared with those of the present research. Because objective academic performance was not measured in this study, no conclusions can be drawn about the relationship between physical activity and actual academic achievement.

The significant difference observed in the academic achievement dimension and the borderline difference in the social/learning behaviors dimension according to students' sport disciplines of interest point to the importance of examining the characteristics of sports participation. Different sports may vary in their rules, individual responsibilities, teamwork requirements, decision-making demands, and opportunities for peer interaction. Such differences may provide students with varying sports experiences and opportunities for social learning. However, because these characteristics were not directly measured in the present study, the mechanisms potentially underlying the observed differences cannot be established.

In their systematic review, Wade et al. (2026) reported that team sports showed more consistent associations with interpersonal skills, social belonging, and certain psychological outcomes. These findings broadly relate to the same research area as the differences observed in social/learning behaviors scores across sport disciplines in the present study. Nevertheless, it cannot be determined whether the observed differences were attributable to team sports, individual sports, or other disciplines without examining the distribution of participants and the group comparisons in greater detail. Furthermore, the inclusion of only seven participants in certain categories, such as boxing and students reporting no sports participation or interest, limits the stability of these comparisons. Accordingly, the findings should not be interpreted as establishing a general ranking of sports disciplines or demonstrating that particular sports are associated with higher self-efficacy.

The significant correlations between physical activity attitudes and self-efficacy subdimensions constitute another important finding of the study. These associations suggest that students' evaluations of physical activity may be related to their perceptions of their capabilities in school-related domains. However, both scales' scoring procedures must be considered when interpreting the direction and meaning of these relationships. The fact that lower scores indicate higher self-efficacy is particularly important when interpreting the correlation coefficients. Negative correlations between positive physical activity attitude scores and self-efficacy subdimensions may be consistent with an association between more positive attitudes and higher self-efficacy, provided that the direction of the attitude scores is also taken into account. Nevertheless, this interpretation should not be finalized until the scoring key of the attitude scale has been verified.

The relationship between physical activity and self-efficacy can be considered not only in relation to academic domains but also in terms of individuals' perceptions of their capabilities and their experiences of participating in physical activity. The systematic review of physical activity interventions and self-efficacy reported increases in self-efficacy in some studies but no significant changes in others (Cataldo et al., 2013). These findings support the view that the relationship between self-efficacy and physical activity should not be considered unidirectional or uniform across all circumstances. However, given the correlational design of the present study, it cannot be concluded that positive attitudes toward physical activity increase self-efficacy or that higher self-efficacy causes more positive attitudes.

The positive correlation between positive and negative physical activity attitude scores also requires particular attention. At first glance, this finding may suggest that positive and negative attitudes change in the same direction. However, the meaning of this relationship depends on whether negatively worded items were reverse-scored and how the subdimension scores were calculated. Because the negatively worded items were reverse-

scored, the relationship between the scores may partly reflect the scoring procedure. Therefore, the correlation should not be presented as evidence that physical activity attitudes have a multidimensional structure.

Significant relationships were also identified among the self-efficacy subdimensions. The moderate positive correlation between academic achievement and subject-specific skills (r = 0.496) indicates that these dimensions were associated within the study sample. Similarly, the significant relationships between social/learning behaviors and other self-efficacy dimensions suggest that students' perceptions of their capabilities in different areas of school life may not be entirely independent. Nevertheless, the magnitude and direction of these relationships should be interpreted in light of the scale's scoring structure. Correlations do not demonstrate that one self-efficacy dimension improves another or that their association can be attributed to a single underlying cause.

Overall, the findings of the present study highlight the importance of examining physical activity attitudes alongside self-efficacy perceptions related to school life. Although the literature includes findings supporting associations between physical activity, academic performance, psychological development, and social skills, these relationships may vary according to the measures, samples, and research designs employed. The absence of significant differences for some variables and the presence of significant correlations for others suggest that the relationships examined in the present study may not be explained by a single factor.

Finally, the findings should not be interpreted as a direct evaluation of the effectiveness of a sports talent screening program. Participation in the national sports talent screening program, the implementation procedures, and outcomes following the program were not directly measured in this study. Therefore, the associations between physical activity attitudes and self-efficacy cannot be used to conclude that the talent screening program has positive or negative effects on students. Future studies investigating talent screening should directly measure program participation and assess students' physical characteristics, perceived competence, physical activity attitudes, and social and academic indicators using appropriate follow-up measurements. Where objective monitoring tools such as GPS-based tracking are used with young athletes, their psychological effects should also be considered, as such monitoring has been linked to both perceived competence and social comparison pressure in adolescent players (Solmaz et al., 2026). Such research would provide a more suitable basis for examining both the relationships between physical activity attitudes and self-efficacy and research questions specifically concerning the talent screening process.

Limitations

Several limitations should be considered. First, the correlational and cross-sectional design does not permit causal conclusions. Second, the study relied on self-reported physical activity and attitude information. Third, the sample was recruited on a voluntary basis, which may limit the generalizability of the findings. Fourth, some sport categories were very small (n = 7 for boxing and n = 7 for no sport), limiting the stability of subgroup comparisons. Fifth, the study did not directly measure exposure to or outcomes of the national sports talent screening program; therefore, conclusions about talent screening are outside the scope of the present data.

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Conflict of Interest

The authors declare no conflict of interest related to this article.

Ethics Committee Report

Ethics approval was obtained from the Siirt University Scientific Research and Publication Ethics Committee (Decision No. 10064, dated October 9, 2025).

Authors' Contributions

Study Design: BÖ, YK, SS
Data Collection: YK , SS, BÖ
Statistical Analysis: YK, SS
Manuscript Preparation: BÖ, SS
Approval: All authors have read and approved the manuscript.

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