

The Role of Physical Activity in Enhancing Social Intelligence among Secondary School Students

Mohammed ZEROUAL¹, Ismail BEKAI², Mouloud KENIOUA^{3*}, Youcef CHAHDI²

¹ University of Biskra, Institute of Physical Education and Sports, P.O. Box 145 Q.R., 07000 Biskra, Algeria

² University of Ouargla, Institute of Physical Education and Sports, Ghardaia Road, BP.511, 30000, Ouargla, Algeria

³ University of Batna 2, Institute of Physical Education and Sports, 53, Route de Constantine. Fésdis, Batna, Algeria

*Correspondence: Mouloud KENIOUA; e-mail: moukenioua@gmail.com

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Abstract: This study examines the influence of physical activity on the augmentation of social intelligence among secondary school students in Ain Beida, Ouargla. A total of 128 students from both the Arabic Literature and Natural Sciences streams took part. The Social Intelligence Scale and a Physical Activity Questionnaire were used to gather data. Both of these tools were shown to be very valid and reliable. The findings indicated that the majority of students participated in consistent physical activity and exhibited relatively elevated levels of social intelligence. There was a statistically significant positive association ($r = 0.399$, $p < .001$) between physical exercise and social intelligence. This means that kids who played sports, especially team sports, were more likely to learn how to communicate, work together, lead, and feel for others. These results underscore the necessity of including physical education and extracurricular sports into school curricula to facilitate adolescents' social and emotional development, while simultaneously advocating for additional longitudinal and experimental research to enhance comprehension of this relationship.

Keywords: physical activity, social intelligence, team sports, secondary school students

Introduction

High school students need to play sports in their lives. This is because sports help them stay fit, both physically and mentally, and socially. One of these traits is social intelligence. This pertains to the ability to understand and manage social relationships proficiently (Goleman, 2006; Al-Badri, 2010; Al-Mubayyid, 2007). Recent research indicates that engagement in sports may enhance social intelligence, particularly among adolescents (Shuaib, 2017; Zahwani, 2018). This is important because social intelligence is a key part of daily life. Playing team sports with other people helps people learn how to work together, lead, and control their desires (Anderson, Brown, & Carter, 2018; Omrani, 2015). These activities can help teens learn how to talk to and work with their friends, which will help them get better at talking and solving problems (Al-Ayed, 2016; Adham, 2012).

Daniel Goleman's theory of social intelligence (2006) backs this up. He says that social intelligence is the ability to understand and feel what other people are going through and to build strong relationships. When you play sports, whether you're working with others or against them, you're always interacting with them. This offers

a pragmatic method for cultivating these skills. Bandura's Social Learning Theory also shows that teens learn new skills by watching other people (Bandura, 1997; Abou Jadu, 2000). This means that playing sports can help teens learn new social skills.

Vygotsky's (1978) social framework theory posits that social interaction is crucial for cognitive development. This theory suggests that sporting events serve as a suitable environment for enhancing these skills within a collaborative framework (Ismail, 2006; Al-Qaryouti, 2000).

Several previous studies have established the correlation between social intelligence and physical engagement. For example, Smith and Johnson (2015) found that teens who play team sports interact with their peers more than teens who don't play these sports. Anderson et al. (2018) conducted a study that found that playing team sports helps teens improve their communication and cooperation skills, which makes it easier for them to make friends. Miller and Green (2020) assert that children engaged in team sports are more inclined to cultivate friendships and possess an enhanced sense of self-confidence. Furthermore, studies conducted in the Arab world affirm that sports positively influence social intelligence (Al-Adly, 2009; Al-Ayed, 2016; Zahwani, 2018).

The main goal of this study is to find out how much playing team sports like football and basketball, among others, affects the social intelligence of high school students. We are trying to figure out how these activities affect teenagers' ability to talk to each other, work together in groups, and share their thoughts and feelings in a variety of social situations.

Most people agree that sports are good for both mental and physical health, but some people don't think that sports help kids learn how to get along with others, especially in school. Al-Badri (2010) and Al-Ayed (2016) say that kids who play team sports can meet new people, learn how to interact with people they don't know, and become more socially aware, which will help them later in life. At this point in time, their emotional and social growth has only just begun.

Based on the above, the following hypotheses can be advanced:

- The level of physical activity is high among the respondents;
- The level of social intelligence is high among the sample members;
- There is a statistically significant(positive) correlation between physical activity and the level of social intelligence.

Materials and methods

The Sample

It was essential to make use of a particular sort of sampling approach, specifically random sampling, because the research being conducted was of a kind that centred on the function of physical sports activity in the development of social intelligence among students in secondary school in the Ain Beida area of Ouargla. The students who participated in the study were divided between the Arabic Literature stream and the Natural Sciences stream. There were 128 students in total.

Research Tools

In this study, we used the *Social Intelligence Scale* (Alian, 2007), which was adapted into Arabic. The scale consists of 21 items distributed across three dimensions: processing social information, social skills, and social awareness. Responses are recorded on a five-point Likert scale (*Strongly Agree – Agree – Neutral – Disagree – Strongly Disagree*). Negative items are reverse-scored. The total score ranges from 21 to 105 points. This instrument was also adopted in previous research (Al-Hamoudi, 2019).

In addition, we made use of the Physical Activity Questionnaire in this investigation in order to gather information pertaining to students' participation in physical activities. This questionnaire was prepared on the basis of prior research and scientific reviews with the goal of evaluating the degree to which students participate in physical activities both inside and outside of the school environment. A collection of questions directed at students was included in it, examples of which are as follows:

- Are you a student in physical education classes?
- Are you involved in any extracurricular activities that are offered at the school?
- Do you participate in any of the sports teams at your school?
- How often do you participate in athletic activities that are not affiliated with the school?
- Do you participate in any sports teams or clubs as a member?
- What kind of sport is it that you typically engage in?

Psychometric Characteristics of the Research Instruments:

The square root of the reliability coefficient was calculated in order to evaluate the intrinsic validity (self-validity) of the scale. A pilot sample of thirty students, both male and female, were given the scale, and the inherent validity coefficient was determined to be 0.91, which is considered to be a high and acceptable value. This is evidence that the scale has a high degree of self-validity. In addition, as shown in Table 1, the correlation coefficient was computed for each item and the total score of the scale.

Table 1. Correlation coefficients between each item of the Social Intelligence Scale and the total score

Item	r	Item	r	Item	r
1	.82	8	.88	15	.74
2	.78	9	.71	16	.85
3	.73	10	.68	17	.81
4	.62	11	.69	18	.69
5	.80	12	.72	19	.77
6	.79	13	.61	20	.81
7	.72	14	.82	21	.85

Note. All correlation coefficients are significant at $p < .01$.

In order to ensure the reliability of the scale, it was administered to a pilot sample of thirty students on two separate occasions, with a two-week delay between the first administration and the second administration of the scale. The test-retest

reliability of the assessment was evaluated using Pearson's correlation coefficient. Furthermore, the Spearman-Brown method was used to investigate the split-half reliability of the test by calculating the correlation between the items with odd numbers and those with even numbers. Additionally, the Cronbach's alpha coefficient was used to conduct an assessment of the internal consistency reliability. The reliability coefficients of the Social Intelligence Scale are presented in Table 2.

Table 2. Reliability coefficients of the Social Intelligence Scale

Scale	Test-retest	Split-half	Cronbach's α
Total score	.83	.91	.90

Note. All reliability coefficients are considered high and acceptable ($\alpha \geq .70$).

Because it gives accurate information regarding the extent to which students participate in physical activities, the Physical Activity Questionnaire was chosen as well. This decision was made due to the questionnaire's reliability and relevance to the issue of this study. Sufficient data were obtained with the assistance of this questionnaire to facilitate the analysis of the association between the amount of physical activity and social intelligence.

Statistical Examination

The researchers utilised a combination of descriptive and inferential statistical techniques to analyse the study data. To find out the overall trends in the sample and how much the answers varied, we found the means and standard deviations. A one-sample T-test was utilised to compare the sample mean with the standard value, whereas an independent-samples T-test was employed to analyse differences between groups, including males and females. Additionally, a one-way ANOVA was performed to ascertain differences among many groups, and Pearson's correlation coefficient was utilised to evaluate the associations between the study variables.

Results

Table 3 contains the results of the analysis of the sample characteristics (N = 128). The results revealed that the proportion of males was larger, with 85 participants (66.4%), compared to 43 females (33.6%). One hundred percent of the participants were enrolled in the same grade level (third year). The average age of the participants was 18.07 years (with a standard deviation of 0.26). When it comes to sports practice, 43.0 percent of participants indicated that they participated in solo sports, while 32.8 percent said that they participated in team sports. On the other hand, 24.2 percent stated that they did not engage in any kind of sports activity. The findings of this investigation suggest that the sample group was composed of a majority of males and that it was highly homogeneous in terms of both age and grade level, however there was a notable diversity in the amount and kind of sports engagement.

Table 3. Sample characteristics (N = 128)

Variable	Category	N	%	M	SD
Gender	Male	85	66.4		
	Female	43	33.6		
Grade level	Third year	128	100.0	3.00	0.00
Age (years)	18–19	128	100.0	18.07	0.26
Type of sports practice	Team sports	42	32.8		
	Individual sports	55	43.0		
	No practice	31	24.2		

Note. *M* = mean; *SD* = standard deviation.

Table 4. Descriptive Statistics of Physical Activity Practice and Social Intelligence (N = 128)

Variable	Minimum	Maximum	Mean	SD
Item 1 of Physical Activity Practice	0.00	1.00	0.98	.15
Item 2 of Physical Activity Practice	0.00	1.00	0.98	.15
Item 3 of Physical Activity Practice	0.00	1.00	0.89	.31
Item 4 of Physical Activity Practice	0.00	1.00	0.74	.44
Item 5 of Physical Activity Practice	1.00	3.00	1.23	.46
Average of Physical Activity Practice Questionnaire	0.25	1.00	0.90	.17
Total of Physical Activity Practice Questionnaire	1.00	4.00	3.95	.69
Average of Social Intelligence Scale	2.29	4.24	3.65	.26
Total of Social Intelligence Scale	48.00	89.00	76.66	5.44

The descriptive data that are presented in Table 4, which pertain to the degree of physical activity practice, showed that the overall mean of the variables was comparatively high, with a standard deviation of 0.17 and an average practice score of 0.90. This demonstrates that the majority of participants engaged in physical exercise at a high level of intensity. The mean score of the participants was 3.95, while the total scores varied from 1 to 4. This reflects the fact that the participants' levels of experience in practice were not exactly the same.

Regarding social intelligence, the overall mean was approximately 3.65, with a standard deviation of 0.26. At the same time, the total scores of social intelligences lay between 48 and 89, with an average score of 76.66. This suggests that the individuals who took part in the study possess a comparatively high degree of social intelligence. In general, the findings of this study indicate that the sample group that was examined possesses a high degree of social intelligence. This is generally connected with a high level of participation in physical activity. This could be an indication that the two variables share a positive association, which would necessitate more examination of the statistics in order to determine whether this link actually exists.

Table 5. The Relationship Between the Level of Physical Activity Practice and the Level of Social Intelligence (N = 128)

Variable	Social Intelligence Total	Physical Activity Total
Social Intelligence Total	1	0.399
Physical Activity Total	0.399	1
<i>p</i>-value	0.000	0.000
Cross-Product Sums of Squares	191.195	61.055
Variance	1.505	0.481
Number of Participants	128	128

The findings of the correlation study, which are shown in Table 5, suggest that there is a modest positive link between social intelligence and the practice of physical activity, as indicated by the Pearson correlation coefficient of $r = 0.399$. This implies that there is a comparatively substantial correlation between people who participate in physical activities and their respective levels of social intelligence. The relevance of the link is confirmed by the fact that the finding is statistically significant at $p = 0.000$.

The conclusions drawn from this research indicate that there is a favorable correlation between higher levels of social intelligence and increased participation in physical activities. To put it another way, there is a correlation between people who frequently participate in athletic activities and people who exhibit a higher degree of social intelligence. The significance of physical activity in improving social abilities and encouraging pleasant interpersonal interaction may be reflected in this relationship. As a result, this creates an opportunity for more thorough investigations to be conducted in order to gain a better understanding of the effect that sports have on the social and emotional development of individuals.

Discussion

The results revealed that the majority of students (third-year secondary school) engaged in high levels of physical activity. This aligns with observations in educational settings, where students actively participate in physical education programs and sports both during and after school hours (Mohamed Hadi, 2021; Hassan, 2013). Similar findings have been reported in prior studies indicating that consistent sports participation contributes to better focus, self-management, and interpersonal skills (Kwon & Roh, 2024; Li & Shao, 2022; Fu, Zhang, & Lee, 2025).

Participants demonstrated moderately high social intelligence, which can be attributed to adolescence being a key stage for social interaction development (Al-Mubayyid, 2007; Adham, 2012). Sports practice, particularly team sports, had a positive effect on social intelligence components such as communication, leadership, cooperation, and empathy (Al-Ayed, 2016; Omrani, 2015; Shuaib, 2017; Zahwani, 2018). Systematic reviews indicate that interventions involving physical activity positively impact the social and emotional well-being of children and adolescents (Fu, Zhang, & Lee, 2025).

Statistical analysis confirmed a moderate positive correlation between social intelligence and physical activity ($r = 0.399$, $p < .001$), consistent with studies by Kwon and Roh (2024) and supported by Bandura's Social Learning Theory (Bandura, 1997; Abou Jadu, 2000). Vygotsky's social framework theory (Vygotsky, 1978; Ismail, 2006) also supports the notion that social interactions during sports facilitate cognitive and emotional development.

Physical activity provides opportunities for social interaction, cooperative learning, and emotional regulation, confirming findings from Jones (2024) and Wang, Chen, & Liu (2024). These results highlight that participation in sports allows students to develop essential skills to navigate social situations effectively, both inside and outside the classroom. Future research should employ longitudinal designs to examine how sport type, frequency, and quality of social interaction influence social intelligence development.

Overall, these findings demonstrate that physical activity is a practical and effective means of fostering social intelligence in secondary school students, particularly through team-based sports. This underscores the importance of integrating organized physical education and extracurricular sports into school curricula to support adolescents' social and emotional growth (Al-Adly, 2009; Fu, Zhang, & Lee, 2025).

Conclusion

Although this investigation offers important information regarding the connection between social intelligence and physical activity among adolescents attending secondary schools, it does have a few limitations. To begin, the generalizability of the findings to other groups may be limited due to the fact that the sample was restricted to kids from the Ain Beida area in Ouargla. In the second place, the research was based on self-report questionnaires, which are susceptible to mistakes in the responses that students provide as well as social desirability bias. Third, the cross-sectional design prohibits causal conclusions, which makes it impossible to identify whether physical activity actually enhances social intelligence or whether students who are already socially intelligent are more likely to participate in sports. Although these limitations exist, the findings clearly underscore the important role that involvement in sports, especially those that require teamwork, plays in the development of social intelligence, communication skills, and collaboration among teenagers. This highlights the significance of including both organized physical education and extracurricular activities such as sports into school curricula in order to provide assistance to students in their social and emotional development. In addition, it is advised that subsequent longitudinal and experimental studies be conducted to confirm and expand upon these conclusions.

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