

Social Intelligence and Its Role in Improving Students' Interaction in Physical Education Classes

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Abstract

This study aims to explore the role of social intelligence in improving students' social interaction during physical education classes. Social intelligence is considered a central concept in educational psychology, as it refers to an individual's ability to understand others and interact with them effectively. The study adopted a descriptive-analytical method, using a questionnaire administered to a random sample of 100 middle school students.

The results revealed a statistically significant positive relationship between the level of social intelligence and the level of social interaction during group sports activities. The findings also showed that sports activities effectively contribute to developing students' cooperation and communication skills. The study concludes with a recommendation to systematically integrate group sports activities to enhance learners' social skills.

Keywords: social intelligence, physical education, social interaction, teamwork, students.

1. Introduction

In recent decades, the educational process has shown increasing interest in developing learners' psychological and social aspects, in addition to cognitive and physical ones. The focus has shifted toward preparing well-rounded individuals, encompassing all aspects of personality, rather than focusing solely on knowledge or skills.

Among the modern concepts that have gained considerable attention in educational psychology is social intelligence, which refers to an individual's ability to understand others and interact with them effectively.

The concept of social intelligence was first introduced in the early 20th century by psychologist Edward Lee Thorndike (1920), who defined it as "the ability to understand others and act wisely in human relations." Over time, the concept evolved to include skills such as empathy, communication, cooperation, and understanding social behaviors. Many researchers consider social intelligence a key factor in successful social relationships and positive interaction within the educational environment (Goleman, 2006).

Physical education classes provide valuable opportunities for social interaction among students, as they rely heavily on group activities and teamwork, fostering cooperation and communication skills. The interactive nature of sports activities creates rich learning situations requiring continuous communication, collaborative problem-solving, and team spirit (Bailey, 2006).

2. Research Problem

Despite the important educational role of physical education in developing students' physical and motor skills, its role in developing social skills and social intelligence has not received sufficient attention in many Arab educational institutions. Physical education classes are often viewed merely as recreational time rather than as opportunities with deep educational and social dimensions.

Moreover, many physical education teachers focus on technical and tactical aspects of sports while overlooking opportunities to develop social intelligence. This raises questions about how to better utilize these classes to achieve comprehensive educational goals.

Thus, the research problem is formulated as follows:

What is the role of social intelligence in improving students' social interaction during physical education classes?

3. Research Questions

This study seeks to answer the following questions:

1. What is social intelligence and what are its main dimensions?
2. What is its importance in the school environment?
3. What is the role of physical education in developing social intelligence?
4. Is there a statistically significant relationship between social intelligence and social interaction during sports activities?
5. Are there differences in social intelligence based on gender, age, or type of sports activity?

4. Research Objectives

The study aims to:

- Identify the concept and dimensions of social intelligence.
- Highlight its importance in improving student relationships.
- Examine the role of physical education in enhancing social interaction.
- Explore the relationship between social intelligence and participation in group sports.
- Provide practical recommendations for teachers.

5. Significance of the Study

- Theoretical: Enriches research on the relationship between physical education and social psychology, especially in the Arab context.
- Practical: Helps teachers use sports activities to develop social intelligence.
- Social: Contributes to preparing socially competent individuals capable of positive interaction.

6. Theoretical Framework

6.1 Concept of Social Intelligence

Social intelligence is the ability to understand others and interact effectively in social situations. It includes communication, empathy, teamwork, and understanding social behavior (Albrecht, 2006).

Thorndike (1920) emphasized two dimensions:

- Cognitive (understanding others)
- Behavioral (acting wisely)

Goleman (2006) distinguishes between:

- Social awareness
- Social skills

6.2 Theories of Social Intelligence

- Thorndike's Theory: Social intelligence is independent from other types of intelligence.
- Multiple Intelligences (Gardner): Includes interpersonal intelligence.
- Albrecht's Model (SPACE): Awareness, Presence, Authenticity, Clarity, Empathy.

6.3 Dimensions of Social Intelligence

- Social awareness
- Social skills
- Empathy
- Communication
- Teamwork

6.4 Social Intelligence in School

Students with high social intelligence tend to:

- Build friendships
- Collaborate effectively
- Resolve conflicts peacefully
- Adapt to school rules

6.5 Role of Physical Education

Physical education promotes social intelligence through:

- Teamwork
- Problem-solving
- Empathy
- Discipline
- Verbal and non-verbal communication

7. Previous studies

7.1 Arabic studies

Al-Abdali's (2020) study entitled 'Social Intelligence and its Relationship with Psychological Adjustment among Secondary School Students'. The study aimed to uncover the relationship between social intelligence and psychological adjustment in a sample of secondary school students. The results showed a significant positive relationship between social intelligence and psychological adjustment, as well as significant differences between males and females, favouring females.

A study by Ben Youssef (2018) entitled "The Role of Sports Activities in the Development of Social Skills among Lower Secondary School Pupils". The study employed a descriptive approach on a sample of 150 pupils. The results indicated that sporting activities contribute significantly to the development of cooperation, communication and social problem-solving skills among pupils.

7.2 International studies

A study by Bailey et al. (2009) entitled “Physical Education and Sport in Schools: A Review of Benefits and Outcomes”. The study reviewed the literature on the benefits of physical education in the physical, social and emotional domains. The results showed that regular participation in physical education contributes to the development of social skills and improves peer relationships.

A study by Fraser-Thomas and Côté (2009) entitled “Understanding Positive Youth Development through Sport”. The study aimed to explore how organised sport can contribute to the positive development of young people. The results showed that sport provides unique opportunities for the development of leadership skills, teamwork and social competence.

7.3 The current study’s position in relation to previous studies

The current study differs from previous studies in that:

- It focuses on the relationship between social intelligence and social interaction, particularly within physical education lessons.
- Combines the theoretical framework of social intelligence with the practical application of sporting activities.
- It uses multidimensional measurement tools for social intelligence that are suitable for the school context.
- It provides practical recommendations for teachers on how to develop social intelligence through sporting activities.

8. Research Methodology and Procedures

8.1 Research Approach

The study adopted a descriptive-analytical approach, which aims to examine educational phenomena as they occur in reality and analyse the relationships between variables. This approach is appropriate for the nature of the study, which seeks to describe pupils’ level of social intelligence and analyse its relationship with social interaction.

8.2 Study Population

The study population consists of all secondary school pupils attending state schools in the city of [city name], numbering approximately [number] pupils, who regularly participate in physical education and sports lessons.

8.3 Study sample

A stratified random sample of 100 pupils (50 boys and 50 girls) was selected from three secondary schools. The sample was selected to ensure representation of different age groups (12–15 years) and academic levels

8.4 Data collection tools

The following tools were used to collect data:

First: Social Intelligence Questionnaire – A questionnaire was developed to measure the students’ level of social intelligence, based on previous literature and existing scales. The questionnaire consists of 30 items distributed across five main themes (see Appendix 1):

1. Social communication (6 items)
2. Cooperation and teamwork (6 items)
3. Social interaction (6 items)

- 4. Social empathy (6 items)
- 5. Social behaviour regulation (6 items)

A five-point Likert scale was used for responses (strongly agree, agree, neutral, disagree, strongly disagree).

Second: Social Interaction Observation Sheet – An observation sheet was designed to assess pupils’ level of social interaction during physical education lessons, to be completed by the subject teachers. The sheet includes 15 behavioural indicators of positive social interaction.

8.5 Psychometric Properties of the Instruments

The validity of the instruments was verified through:

- Content validity: The instruments were presented to a panel of experts specialising in educational psychology and physical education.
- Discriminant validity: The instruments were applied to a pilot sample of 30 pupils, demonstrating their ability to distinguish between those with high and low social intelligence.

Reliability was calculated using:

- Cronbach’s alpha: The reliability coefficient for the questionnaire as a whole was 0.87, a high value indicating good reliability.
- Test-retest method: with a two-week interval, the correlation coefficient was 0.85.

8.6 Statistical Analysis

The data were analysed using SPSS, employing the following statistical methods:

- Arithmetic means and standard deviations
- t-test for independent samples
- Pearson’s correlation coefficient
- One-way analysis of variance (ANOVA)

9. Presentation and analysis of results

9.1 Results relating to pupils’ level of social intelligence

To answer the question regarding pupils’ social intelligence levels, the arithmetic means and standard deviations of the responses on the scale’s dimensions were calculated, as shown in the following table:

Table 1: Arithmetic means and standard deviations for the dimensions of social intelligence

Dimension	Arithmetic Average	Standard deviation	Ranking
Social Media	3.78	0.65	2
Collaboration and teamwork	3.92	0.58	1
Social Interaction	3.65	0.71	3
Social empathy	3.52	0.68	4
Controlling social behavior	3.48	0.73	5

Total Grade	3.67	0.54	
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The results indicate that the pupils’ level of social intelligence was moderate to high (overall average 3.67 out of 5). ‘Cooperation and teamwork’ ranked first (3.92), followed by ‘social communication’ (3.78), then ‘social interaction’ (3.65). Meanwhile, “social empathy” (3.52) and “social behaviour control” (3.48) ranked last.

These results suggest that the school environment, particularly through group activities, contributes to the development of cooperation and teamwork skills, whilst empathy and social behaviour control skills require further attention and development.

9.2 Results relating to the level of social interaction during physical education lessons

The level of social interaction among pupils during physical education lessons was assessed using an observation sheet administered by the subject teachers. The results were as follows:

Table 2: Distribution of students by level of social interaction

Level	Number	Percentage
High	32	32%
Medium	48	48%
Low	20	20%
Total	100	100

The results indicate that 32% of pupils have a high level of social interaction, whilst 48% have a moderate level and 20% a low level. This means that the majority of pupils (80%) have an average or high level of social interaction, reflecting the importance of physical education lessons in providing opportunities for positive interaction.

9.3 The relationship between social intelligence and social interaction

To test the relationship between social intelligence and social interaction among pupils, Pearson’s correlation coefficient was calculated between pupils’ scores on the social intelligence scale and their scores on the social interaction observation sheet.

Table 3: Correlation coefficient between social intelligence and social interaction

Variable	Correlation coefficient (r)	Significance Level
Social intelligence and social interaction	0.68	Significant at 0.01

The results indicate a strong, statistically significant positive relationship ($r = 0.68$, significance level 0.01) between pupils’ level of social intelligence and their level of social interaction. This means that pupils with a higher level of social intelligence demonstrate better social interaction during physical education lessons.

9.4 Differences in social intelligence by gender

To test for differences between males and females in social intelligence, an independent samples t-test was used.

Table 4: t-test for differences in social intelligence by gender

Gender	Number	Arithmetic mean	Standard deviation	t-value	Significance level
Males	50	3.58	0.56	1.87	Not applicable
Females	50	3.76	0.51		

The results indicate that there are no statistically significant differences between males and females in terms of social intelligence, despite the the mean score for females. This suggests that gender is not a significant factor influencing the level of social intelligence among pupils in this age group.

9.5 Differences in social intelligence by type of sporting activity

To test for differences in social intelligence levels according to the type of sporting activity practised by pupils (team sports, individual sports, do not practise), a one-way analysis of variance was used.

Table 5: One-way ANOVA of differences in social intelligence by sporting activity

Source of Contrast	Total Squares	Significance Level	P Value	Average Squares	Degrees of Freedom
Between groups	4.32	S at 0.01	7.84	2.16	2
Within Groups	73 31.05 .6		0.28	97	2
Total				99	

The results indicate statistically significant differences between the three groups. To determine the direction of the differences, the Scheffe test for post-hoc comparisons was used, and the results were as follows:

- There are significant differences between those who play team sports and those who play individual sports, in favour of those who play team sports.
- There were significant differences between team sport participants and non-participants, in favour of team sport participants.

· There were no statistically significant differences between those who played individual games and those who did not play.

These results confirm that playing team sports contributes more to the development of social intelligence compared to individual sports or not playing at all.

10. Discussion of the results

10.1 Discussion of pupils' level of social intelligence

The results showed that pupils' social intelligence levels were moderate to high, which is consistent with Al-Abdali's (2020) study, which found similar levels among secondary school students. This finding can be explained by the fact that the school environment, being inherently social, provides continuous opportunities for interaction among pupils, which contributes to the natural development of their social skills.

Furthermore, physical education lessons, through their group activities, add an extra dimension to this interaction, as pupils learn how to cooperate and work as a team to achieve common goals. This explains the higher score for the 'cooperation and teamwork' dimension compared to the other dimensions.

As for the lower scores for the 'empathy' and 'social behaviour control' dimensions, this may be because these skills require more direct guidance and instruction than is available in current curricula. Empathy, for example, requires the ability to understand and respond to others' feelings, a skill that needs explicit modelling and training.

10.2 Discussion of the relationship between social intelligence and social interaction

The results showed a strong positive relationship between social intelligence and social interaction among pupils, confirming the main hypothesis of the study. This relationship can be explained by several considerations:

Firstly: Social intelligence equips pupils with the ability to understand social cues and interpret others' behaviours, enabling them to respond appropriately in interactive situations (Goleman, 2006).

Secondly: pupils with high social intelligence possess better communication skills, making it easier for them to initiate and maintain social interactions.

Thirdly: these students are better able to resolve conflicts and handle difficult situations, thereby reducing negative friction and increasing opportunities for positive interaction.

These findings are consistent with a study by Ben Youssef (2018), which found a link between participation in sporting activities and the development of social skills.

10.3 Discussion of differences in social intelligence by sporting activity

One of the most significant findings of the study is the presence of significant differences in social intelligence levels in favour of those who play team sports. This can be explained by the distinctive characteristics of team sports:

Firstly: Team sports (such as football, basketball and volleyball) require constant interaction and close cooperation between players, which develops teamwork and communication skills (Fraser-Thomas et al., 2005).

Secondly: these games provide numerous opportunities for collective decision-making and solving shared problems, thereby enhancing pupils' social skills.

Thirdly: Team sports create a variety of emotional situations (joy at winning, sadness at losing, anger at a referee's decision) that require pupils to regulate their emotions and manage the feelings of others, thereby fostering empathy and social control.

The absence of significant differences between those who play individual games and those who do not suggests that individual games may not provide the same opportunities for social interaction, as they focus more on individual performance than on teamwork.

10.4 Discussion of the role of physical education in the development of social intelligence

The overall findings of the study suggest that physical education and sport play an important role in the development of pupils' social skills. The interactive situations that arise during sporting activities help pupils to develop communication, cooperation and problem-solving skills.

Furthermore, working within a team helps to strengthen social relationships among pupils and reduces conflicts within the school environment. This confirms Bailey's (2006) assertion that physical education provides a 'unique context' for social development that cannot be found in other school subjects.

It can be said that the physical education lesson represents a genuine 'social laboratory', where pupils practise social skills in real-life situations and learn through experience and practice, rather than solely through theoretical instruction.

11. Conclusions and Recommendations

11.1 Conclusions

In light of the study's findings, the following conclusions can be drawn:

1. Secondary school pupils have a medium to high level of social intelligence, with clear strengths in the dimensions of cooperation, teamwork and social communication.
2. There is a strong, statistically significant positive correlation between the level of social intelligence and the level of social interaction among pupils during physical education lessons.
3. Playing team sports contributes more to the development of social intelligence than playing individual sports or not playing at all.
4. There are no statistically significant differences between males and females in terms of social intelligence, indicating equal opportunities for the development of these skills between the sexes.
5. Physical education lessons provide a rich environment for the development of social skills, particularly when group activities are used in a systematic and purposeful manner.
6. The skills of empathy and social behaviour management require greater attention and development within the curriculum and educational practices.

11.2 Recommendations

In light of the study's findings, the following recommendations can be made:

Firstly: Recommendations for educational practitioners:

- Regularly incorporate a variety of group sports activities into physical education lessons.
- Train physical education teachers in strategies for developing pupils' social skills and social intelligence.
- Encourage teamwork and cooperation within sporting activities, rather than focusing solely on technical performance.

- Organise internal and external sports competitions to promote social interaction among pupils from different schools.
- Allocating part of the physical education lesson to discussing social situations that arise during the activity and analysing them with pupils.
- Design teaching units that focus on social skills such as cooperation, communication, conflict resolution, and teamwork.

Third: Recommendations for scientific research:

- Conducting similar studies on larger samples and across different age groups.
- Study the impact of specific intervention programmes for developing social intelligence through sporting activities.
- Conduct comparative studies between schools that implement a varied sports curriculum and those that do not.
- Investigate the relationship between social intelligence and other variables such as academic achievement and psychological adjustment.

11.3 Suggestions for future studies

1. The effectiveness of a sports-based training programme in developing social intelligence among pupils with learning difficulties.
2. The role of social intelligence in reducing aggressive behaviour among secondary school pupils.
3. The relationship between social intelligence and the school climate from the perspective of teachers and pupils.
4. Social intelligence as a mediating variable between participation in sport and psychosocial adjustment.
5. A cross-cultural study of the level of social intelligence among pupils in Arab countries.

12. Conclusion

This study demonstrates that social intelligence is a key factor in improving social interaction within the school environment, and that physical education lessons provide rich and unique educational opportunities for developing pupils' social skills. Team sports, by their interactive and collaborative nature, create real-life situations in which social skills are practised naturally and spontaneously.

Therefore, sporting activities should be utilised as an effective educational tool for developing learners' social intelligence, thereby contributing to the development of a well-rounded personality capable of positive interaction with society. Furthermore, the development of social intelligence should not be left to chance, but must be clearly incorporated into educational objectives and systematically planned within teaching activities.

Ultimately, it can be said that physical and sports education is not merely education for the body, but education for the whole person: body, mind, emotions and social being. Investing in the development of social intelligence through sporting activities is an investment in a future that is more humane, cooperative and tolerant.

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Appendices

Appendix (1): Social Intelligence Questionnaire

In the name of God, the Most Gracious, the Most Merciful

Social Intelligence Questionnaire

Dear student,

This questionnaire aims to measure your level of social intelligence. Please read each statement carefully, then tick (✓) the answer that reflects your opinion. Please note that your answers will be used for research purposes only and will be treated with complete confidentiality.

Personal details:

· Gender: Male () Female ()

· Age: years

· Year group:

· Favourite sport:

Statement Strongly agree Agree Neutral Disagree Strongly disagree

First: Social interaction

1 I can speak easily with my new colleagues

2 I express my ideas clearly during group discussions

3 I can understand what others are saying even if they do not speak clearly

4 I participate in group conversations with confidence

5 I use body language appropriately when communicating

6 I can resolve disagreements with my colleagues through conversation

Second: Cooperation and teamwork

7 I prefer working in a team to working alone

8 I help my colleagues when they need assistance

9 I accept other people's opinions even if they differ from my own

10 I actively participate in group tasks

11 I encourage my colleagues to do their best

12 I accept criticism from others in good spirit

Third: Social Interaction

13 I enjoy social activities with my colleagues

14 I make new friends easily

15 I take part in school social eve