

The Role of School Sports Activities in Building Social Capital and Enhancing School Belonging among Middle School Students A Descriptive Analytical Field Study

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Abstract:

The study aimed to examine the role of school sports activities in building social capital and enhancing school belonging among middle school students. It adopted the descriptive correlational method and included a random sample of 150 students from various middle schools. A set of statistical techniques, including the t-test and ANOVA, were applied using SPSS version 26.

The results showed that school sports activities have a positive role in building social capital and enhancing school belonging among middle school students.

Keywords: Social Capital, School Belonging, Physical Education, Middle School, Students.

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1. INTRODUCTION

In contemporary educational philosophy, schools have evolved into comprehensive social institutions whose role goes beyond the mere transmission of knowledge and academic skills. They are also concerned with shaping learners' personalities, developing their psychological, social, and moral attributes, and enabling them to integrate effectively into society. In light of rapid social changes, increasing emphasis has been placed on educational practices that promote social interaction, cooperation, and a sense of belonging, as these elements are considered key determinants of academic success and learners' psychological and social well-being (Durkheim, 1956)(Putnam, 2000).

School activities—particularly sports—are among the most important educational tools for achieving these objectives, as they provide an interactive social environment that enables learners to build relationships based on cooperation, mutual respect, and collective discipline. School sports are not merely marginal recreational activities; rather, they represent a conscious educational and pedagogical practice that contributes to the development of social skills, the reinforcement of moral values, and the improvement of learners' ability to adapt socially within the school environment (Bailey, 2006)(Coalter, 2013).

Within this context, the concept of social capital has emerged as one of the key concepts for explaining the relationship between collective practices and social integration.



It refers to the set of social networks, norms of trust, cooperation, and mutual assistance that enhance coordination and collective action among learners within the school setting (Durlak et al., 2010).

School sports activities play a crucial role in the formation of school social capital by providing collective experiences based on teamwork, adherence to rules, acceptance of others, and peaceful conflict resolution. They also contribute to strengthening trust among learners and reinforcing social bonds between them, which positively reflects on the overall school climate.

Building social capital enhances students' sense of belonging within the school environment, which is a critical indicator for assessing the impact of the educational experience on the learner. School belonging involves a deep sense of acceptance and positive interaction with the school community, strengthening the emotional connection between the student, the school, and its members (Goodenow, 1993). Studies indicate a strong relationship between a high sense of school belonging and lower rates of maladaptive behaviors, as well as increased learning motivation and stronger student commitment to the educational institution (Finn, 1989)(Osterman, 2000).

At the middle school stage, the sense of school belonging becomes particularly important due to the sensitive psychological and social changes that learners experience during this period. The quality of relationships within the school plays a major role in shaping their experiences. Research has shown that school sports activities act as a decisive factor in enhancing

students' sense of belonging by promoting positive peer interactions and fostering a feeling of integration into the school community (Eccles & Barber, 1999) (Bang et al., 2024).

Based on the above, the importance of this study lies in its attempt to analyze the role of school sports activities in building social capital and enhancing school belonging among middle school students, through a descriptive analytical field approach. The study aims to enrich educational knowledge and provide scientific data that can be utilized to improve pedagogical practices within middle schools. The first subtitle opens with an introduction that presents the specific problem under study and describes the research strategy.

Accordingly, the research problem of this study is centered on the following question:

• **What is the role of school sports activities in building social capital and enhancing school belonging among middle school students?**

Specific Research Questions.

1. What is the level of social capital among students in light of their participation in physical education and sports?
2. What is the level of school belonging among students?
3. Is there a statistically significant relationship between social capital and school belonging?
4. Do the levels of social capital and school belonging differ according to certain demographic variables (gender, grade level)?

Research Hypotheses.

General Hypothesis.

“School sports activities play a positive role in building social capital and enhancing school belonging among middle school students”.

Sub-hypotheses.

- The level of social capital among students is high in light of their participation in physical education and sports.
- The level of school belonging is high among middle school students.
- There is a statistically significant relationship between social capital and school belonging.
- The levels of social capital and school belonging differ according to certain demographic variables (gender, grade level).

Study Objectives.

This study aims to:

- Identify the level of social capital among students in physical education classes.
- Determine the level of school belonging among middle school students.
- Examine the nature of the relationship between social capital and

school belonging.

- Highlight the educational and social role of physical education within the school setting.
- Provide scientific data that can be utilized to improve pedagogical practices in physical education.

Significance of the Study

Theoretical Significance:

This study contributes to enriching the educational field by establishing a link between physical education and the concept of social capital, thereby adding a new dimension to the educational literature on this topic. It also broadens the scope of scientific research on school belonging from the perspective of physical and sports activities, which deepens the academic understanding of the relationship between school sports, social interaction, and students' sense of belonging.

Practical Significance:

The findings of this study provide practical evidence that physical education teachers can utilize to effectively invest class sessions in strengthening social relationships among learners. Moreover, the study offers educational policymakers scientific data that can support the design and development of school programs highlighting the vital role of physical education in building a comprehensive school environment that fosters positive interaction.

2. Theoretical Framework of the Study Concepts.

First: School Sports Activities : School sports activities are

defined as a set of structured physical practices carried out within the school environment, either as part of Physical and Sports Education classes included in the official curriculum or within extracurricular activities and sports competitions. They constitute an educational space that simultaneously develops students' physical, psychological, and social dimensions (Zaher, 2012, p. 47). In Algeria, Physical Education is allocated two hours per week at the middle school level, within a competency-based approach introduced under the 2003 educational reforms.

Second: Social Capital: The concept of social capital refers to networks of relationships, mutual trust, and shared norms that facilitate cooperation among members of a group. Bourdieu (1986) defined it as “the aggregate of the actual or potential resources linked to possession of a durable network of institutionalized relationships of mutual acquaintance and recognition” Coleman (1988) emphasized its educational function, highlighting its association with reduced school dropout rates. Putnam (2000) distinguished between bonding social capital (within-group ties) and bridging social capital (between-group ties), both of which are fostered through collective sports practices (Putnam, 2000, p. 22).

Its components are reflected in: social trust (the willingness to engage positively based on mutual expectations), social networks (friendship and cooperation ties), and shared norms (behavioral regulations such as respect for rules and sportsmanship) (Abdelmajid, 2016, p. 83).

Third: School Belonging: School belonging is defined as students' subjective sense of being accepted, valued, and included members of their school community. It includes three dimensions: cognitive (positive perception of school), affective (feelings of comfort and emotional well-being), and behavioral (active participation and

adherence to school norms)

The middle school stage (11–15 years) is particularly significant, as it involves major identity transitions that make the school environment the primary social reference for adolescents. Studies also indicate that the level of school belonging is strongly associated with the quality of peer relationships and participation in extracurricular activities (Bouhafs, 2019, p. 52).

Fourth: Relationship Between Variables and the Explanatory Framework: School sports activities lie at the center of the relationship between the study variables, as they generate repeated social interactions that strengthen trust and build friendship networks (social capital), which in turn enhance students' sense of belonging to their school. This relationship is grounded in three theoretical foundations: Coleman's theory on the educational function of social capital, Hirschi's (1969) social bond theory, which posits that strong social ties ensure institutional belonging, and Deci and Ryan's Self-Determination Theory, which considers belonging a fundamental psychological need (Deci & Ryan, 1985, p. 29).

The explanatory pathway can be summarized as:

School sports activities → Social interactions and mutual trust networks (↑ social capital) → Enhanced school belonging.

3. Previous Studies

3.1 Study by Günay Yildizer et al (2018).

This study aimed to examine the relationship between different indicators of social capital and participation in physical activity

among Turkish adolescents. A survey study was conducted involving 19 high schools across four different cities in Turkey. The sample consisted of 506 female students and 729 male students from the secondary school level. The short version of the International Physical Activity Questionnaire (IPAQ) was used. The results revealed a strong positive correlation between physical activity participation and the trust indicator among students. Physically active students exhibited higher levels of social support and friendship networks compared to their inactive peers.

3.2 Study by Bessaoud Thamer and Sadeki Ali (2023).

This study aimed to identify the role of recreational physical activity in developing social capital and its importance in building trust, respect, value awareness, and social integration through the construction of social networks among practicing students in the city of Laghouat. The sample consisted of 200 middle school students from various schools. Data were collected using a questionnaire, and the descriptive method was adopted. The findings indicated that participation in recreational physical activity plays a significant role in the development of social capital among middle school students.

3.3 Study by Ghazi El-Sayed Youssef et al (2024).

The study aimed to investigate the relationship between social support and school belonging among students of sports schools in El-Sharqia Governorate. The descriptive method was employed, and two questionnaires (Social Support and School Belonging) were used to collect data from a sample of 60 second-grade preparatory students. The results demonstrated a positive correlation between social support and school belonging among students of sports schools in El-Sharqia.

3.4 Study by Laour El-Taher and Mohamed Hussein Al-Nadhari (2025).

This study aimed to examine the role of school sports in improving social communication skills and their relationship with social shyness among female secondary school students. The researchers adopted the descriptive method and used the Social Communication Skills Scale and the Social Shyness Scale as data collection instruments. The sample consisted of 92 female students. The results indicated that school sports play an effective role in developing social communication skills and reducing social shyness among female secondary school students.

3.5 Study by Novak, D. et al (2025).

This study aimed to explore the role of social capital in promoting physical activity among secondary school students in Croatia. The descriptive method was adopted with a sample of 317 secondary school students. Data were collected using a questionnaire consisting of three dimensions covering all aspects of the topic. The results showed that students' participation in extracurricular and school activities plays a positive role in enhancing physical activity levels among adolescents. This is attributed to the fact that such activities allow students to choose activities they prefer and contribute to improving social relationships through peer interaction, thereby fostering an active and supportive environment.

4. Commentary on Previous Studies.

Previous studies sought to achieve various research objectives, and both Arab and foreign studies addressing the same topic through variables such as physical activity in its various forms, social capital, and school belonging have contributed significantly to this field. For

instance, the study by Günay Yildizer et al. (2018) aimed to examine the relationship between different indicators of social capital and participation in physical activity among Turkish adolescents. The study by Bessaoud Thamer and Sadeguy Ali (2023) focused on identifying the role of recreational physical activity in developing social capital. Meanwhile, the study by Ghazi El-Sayed Youssef et al. (2024) examined the relationship between social support and school belonging among students of sports schools in El-Sharqia Governorate. Additionally, the study by Novak, D. et al. (2025) aimed to explore the role of social capital in promoting physical activity among secondary school students in Croatia.

4.1 Research Methodology.

Most of the previous studies adopted the descriptive research method, which is considered appropriate for the nature of the current study.

4.2 Study Sample.

All previous studies focused on adolescent samples aged between 12 and 17 years, including middle and secondary school students. This age group represents the target population of the present study.

4.3 Data Collection Instruments.

All the previous studies relied on questionnaires as the primary tool for data collection. Accordingly, the questionnaire is considered an appropriate instrument for collecting data in the current study.

4.4 Main Findings.

The findings of previous studies support the relevance and validity of the chosen research topic, as they demonstrated clear relationships between physical activity, social capital, and school

belonging.

5. The Applied Part of the Study.

5.1 Research Methodology.

Based on the nature of the research topic and the objectives of this study, the descriptive–analytical method was deemed the most appropriate approach. The descriptive method can be defined as a scientific approach to analysis and interpretation aimed at achieving specific objectives related to a particular social situation. It is also a method used to describe the studied phenomenon and to present it quantitatively by collecting standardized data about the problem, classifying and analyzing it, and subjecting it to rigorous examination (Hicham, 2007, pp. 72–73).

5.2 Study Population.

Rahim Younes Krou Al-Azzawi defines a population as a set of clearly defined statistical units from which data are to be obtained (Krou Al-Azzawi, 2007, p. 161). The term population refers to all cases, individuals, or objects that the researcher intends to study (Krou Al-Azzawi, 2007, p. 181). Accordingly, the study population in the present research includes all middle school students enrolled in Algerian educational institutions.

5.3 Pilot Study Sample: The pilot study sample consisted of 30 middle school students.

5.4 Study Sample.

The study sample consisted of 150 students of both sexes, aged between 12 and 15 years, distributed across four grade levels. The sample was selected using a multistage cluster sampling technique

from several educational institutions across 10 provinces (Algiers, Oran, Annaba, Sétif, Djelfa, Laghouat, Ghardaïa, Béchar, Adrar, and Tamanrasset). This method is widely recommended in educational research and large-scale studies when the population is large, geographically dispersed, and when no comprehensive sampling frame listing all individuals is available.

The selection of these provinces was not random; rather, it was based on the following considerations:

1. Geographical and Demographic Representation of Algeria:

- **Northern region:** Algiers, Oran, Annaba, and Sétif — areas with high population density.
- **High Plateaus region:** Laghouat, Djelfa, and Ghardaïa — transitional zones between the north and the south.
- **Greater Southern region:** Béchar, Adrar, and Tamanrasset — representing desert areas.

2. Environmental, social, and cultural diversity.

3. Population density and educational indicators.

Procedure for Selecting Sample Participants from the Target Population:

✓ **First stage:** The target population was divided into major geographical clusters. Ten provinces were selected according to a tripartite geographical representation criterion (North – High Plateaus – South), a method known as geographical stratified sampling within a cluster framework .

✓ **Second stage:** Selection of middle schools. One middle school

was randomly selected within each province using simple random sampling.

✓ **Third stage:** Selection of students.

In each middle school, 15 students were selected and distributed across four grade levels (1st year, 2nd year, 3rd year, and 4th year of middle school), taking into account the following:

- Gender balance (male and female).
- Age groups (12–15 years).
- Selection of participants using systematic random sampling. (Krejcie & Morgan, 1970) (Cochran, 1977).

Table 1: Distribution of Study Sample by Province.

No.	Province (Wilaya)	Middle School Name	No. of Participants
01	Algiers	Abdullah Ibn Abbas Middle School – El Biar	15
02	Oran	Cherfa oui Ali Middle School	15
03	Annaba	Omar Al-Mukhtar Middle School	15
04	Sétif	Maouet Mihoub Middle School	15
05	Djelfa	Latrache Mohamed Middle School	15
06	Laghouat	El-Raq El-Haj Middle School	15
07	Ghardaïa	Sheikh Bouhamida Zian Middle School	15
08	Adrar	Emir Abdelkader Middle School	15

09	Béchar	Mubarak El-Mili Middle School	15
10	Tamanrasset	Tariq Ibn Ziyad Middle School	15
Total		10 provinces / 10 schools	150

5.5. Study Delimitations.

Spatial Delimitations: The study was conducted in ten (10) different Algerian provinces: Laghouat, Djelfa, Ghardaïa, Algiers (Algiers Province), Sétif, Oran, Annaba, Béchar, Adrar, and Tamanrasset.

Human Delimitations: The human scope of the study consisted of middle school students.

Temporal Delimitations: The temporal scope of the study was divided into three phases:

- ✓ **First Phase:** Visits to a number of middle school institutions to identify the study sample.
- ✓ **Second Phase:** Due to time constraints, a pilot study was conducted on a sample of 30 students from various middle school institutions. This phase extended from October 6–13, 2025.
- ✓ **Third Phase:** The main study phase extended from October 20–December 1, 2025, during which 150 questionnaires were distributed.

5.6 Data Collection Instruments.

Questionnaire.

The questionnaire is one of the most widely used tools in scientific research. It is designed to obtain facts and collect data about existing conditions and practices. The questionnaire is based on preparing a set of questions that are distributed to a relatively large number of individuals from the study population, usually to a representative sample reflecting the different groups whose opinions are being examined (Badr, 1975, p. 353).

The questionnaire consisted of 24 items, including four (4) items related to personal data and twenty (20) items divided into two main dimensions. The questionnaire axes were structured as follows:

- ✓ **Personal Information Section:** Consisted of four (4) items related to personal data (gender, age, province, and grade level).
- ✓ **First Axis:** Consisted of ten (10) items related to social capital, covering social relationships, mutual trust, cooperation, and participation.
- ✓ **Second Axis:** Consisted of ten (10) items related to school belonging, covering social acceptance, attachment to the institution, and school participation.

The questionnaire was developed based on relevant literature and previous studies and was structured around three main sections.

✓ **Robert D. Putnam** – Social Capital Theory

Putnam, R. D. (2000). *Bowling Alone: The Collapse and Revival of American Community*.

✓ **Carol Goodenow** – School Belonging

Goodenow, C. (1993). Psychological sense of school membership among adolescents: Scale development and educational correlates.

✓ **Richard Bailey** – School Physical Education

Bailey, R. (2006). Physical education and sport in schools: A review of benefits and outcomes.

✓ **Nicholas L. Holt** – Positive Youth Development through Sport

Holt, N. L., et al. (2011). Positive youth development through sport

A five-point Likert scale was adopted as follows:

Table 2. Five-point Likert scale

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
01	02	03	04	05

5.7 Scientific Criteria of the Instrument.

The instrument was subjected to psychometric evaluation, and the results were as follows:

- ✓ **Face Validity:** The questionnaire was reviewed by a panel of experts to assess the relevance and clarity of the items and to refine the wording of the questions. It was then administered to the pilot sample. Based on the feedback obtained, some items were modified, others were removed, and new items were added. Consequently, the questionnaire was finalized in its final form.

- ✓ **Instrument Reliability:** The reliability of the instrument was assessed using Cronbach's alpha coefficient. The value of Cronbach's alpha for the questionnaire as a whole was $\alpha \geq 0.87$, indicating a high level of reliability and statistical acceptability.

Table 3. Reliability of the Scale (Cronbach's Alpha)

Dimensio	Social Capital	School Belonging	Overall Scale
Number of Items	10	10	20
Cronbach's Alpha (α)	0.88	0.86	0.87

Interpretation.

The results indicate that the Cronbach's alpha coefficients for all dimensions ranged between 0.86 and 0.88, while the overall scale reliability reached 0.87. These values reflect a high level of internal consistency and indicate that the scale is reliable and statistically acceptable for research purposes.

6. Data Analysis, Interpretation, and Discussion.

6.1 Analysis and Discussion of the First and Second Hypotheses

First Hypothesis: The level of social capital among students is high in light of their participation in physical education and sports.

Second Hypothesis: The level of school belonging is high among middle school students.

Table 4. Participants' Attitudes Toward the Questionnaire Dimensions

Variable	N	Mean	Standard Deviation	Level of Rating
Social Capital	150	4.07	0.71	High
School Belonging	150	4.01	0.74	High

Source: Compiled by the researcher using SPSS results

Interpretation.

First Hypothesis: The level of social capital among students is high in light of their participation in physical education and sports.

The descriptive statistics for social capital, as presented in Table 3, show a mean score of 4.07 with a standard deviation of 0.71, indicating a high level of social capital among middle school students. This suggests that students exhibit positive social relationships, mutual trust, and cooperation with peers during physical education and sports sessions. The relatively low standard deviation indicates a considerable degree of agreement among students regarding the positive influence of physical education on their social interactions.

These findings align with the theoretical framework of Putnam (2000), who emphasized that social capital emerges from shared experiences, cooperation, and trust-building within social networks. In the school context, physical education provides structured opportunities for students to collaborate in team activities, respect rules, and develop interpersonal skills, thereby contributing to the

formation of social capital. This is consistent with previous studies (Günay Yildizer et al., 2018; Bessaoud Thamer & Sadeguy Ali, 2023), which found that participation in physical activities is positively associated with the development of social networks and mutual support among adolescents.

Second Hypothesis: The level of school belonging is high among middle school students.

The descriptive results for school belonging indicate a high mean score of 4.01 with a standard deviation of 0.74, reflecting that students experience a strong sense of attachment, acceptance, and participation within their school environment. These results demonstrate that physical education and sports classes play an important role in promoting school integration and fostering positive attitudes toward the institution.

This finding is consistent with Goodenow (1993), who argued that school belonging is a crucial factor for students' social, emotional, and academic development. Physical education sessions, through cooperative games and group activities, provide students with opportunities to feel included, respected, and engaged, which strengthens their sense of belonging. Similar outcomes were reported by Ghazi El-Sayed Youssef et al. (2024), showing a positive relationship between social support and school belonging among students participating in school sports programs.

By examining both variables, it is evident that the levels of social capital and school belonging are both high and relatively homogeneous among the participants. This suggests that the benefits of physical education and sports extend beyond physical development to include social and emotional dimensions. The findings emphasize

the educational and sociological importance of incorporating regular physical activity in schools as a means to enhance social cohesion and promote a positive school climate.

Overall, these results confirm the first and second hypotheses, demonstrating that students' engagement in physical education and sports contributes significantly to building social capital and strengthening school belonging in the middle school context.

Table 5. Pearson Correlation between Social Capital and School Belonging

Variables	r	Sig
Social Capital – School Belonging	0.64	0.000

Source: Compiled by the researcher using SPSS results

Interpretation:

This table presents the results of the Pearson correlation analysis between social capital and school belonging among middle school students. The correlation coefficient was $r = 0.64$ at a significance level of $\text{Sig.} = 0.000$, which is below the conventional significance threshold ($\alpha = 0.05$). This indicates a strong, positive, and statistically significant relationship between the two variables.

The result suggests that as students' social capital increases—which is reflected in the quality of social relationships, mutual trust, cooperation, and participation during physical education and sports sessions—their level of school belonging also rises. School belonging is manifested in feelings of acceptance, integration, and attachment to the educational institution.

This strong correlation highlights the vital role of physical education

and sports as an educational and social space that contributes to the development of positive social networks, thereby reinforcing students' sense of belonging to their school.

6.2 Presentation, Analysis, and Discussion of the Results of the Third Hypothesis.

Table 6. Analysis of Gender Differences Using the t-test

Variable	Gender	Mean	t- test	Sig
Social Capital	Males	3.98	2.11	0.036*
	Females	4.15		
School Belonging	Males	3.95	1.42	0.157
	Females	3.94		

Source: Compiled by the researcher using SPSS results

Interpretation:

This table presents the results of the independent samples t-test conducted to examine gender differences in social capital and school belonging among middle school students.

With regard to social capital, the results revealed statistically significant differences between males and females, with a t value of ($t = 2.11$) at a significance level of ($\text{Sig} = 0.036$), which is lower than the adopted significance level ($\alpha = 0.05$). Females recorded a higher mean score (4.15) compared to males (3.98), indicating that female students exhibit higher levels of social capital during physical education and sports classes. This finding suggests that females tend to build more positive social relationships based on cooperation, interaction, and mutual respect while engaging in physical activities. Accordingly, this result confirms the hypothesis stating

that there are gender-based differences in the level of social capital.

As for school belonging, the results of the t-test showed no statistically significant differences between males and females, as the t value reached ($t = 1.42$) with a significance level of ($\text{Sig} = 0.157$), which exceeds (0.05). Although males recorded a slightly higher mean score (3.95) compared to females (3.94), this difference is not statistically significant. This indicates that the level of school belonging is similar for both genders. The finding suggests that the sense of belonging to the educational institution is a general phenomenon shared by both male and female students and is not substantially influenced by gender within the study sample. Consequently, the hypothesis assuming statistically significant gender differences in school belonging is rejected.

Based on these findings, it can be concluded that gender has an effect on the level of social capital within physical education and sports classes, while it does not affect the level of school belonging. This supports the sociological perspective that views physical education as an equitable educational space that promotes school belonging among all students, despite relative differences in social interaction patterns between males and females.

6.3 Presentation, Analysis, and Discussion of the Results of the Fourth Hypothesis.

Table 7. Results of One-Way Analysis of Variance (ANOVA) According to Grade Level.

Variable	ANOVA (F)	Sig
Social Capital	2.34	0.074
School Belonging	1.89	0.133

Source: Compiled by the researcher using SPSS results

This table presents the results of the one-way analysis of variance (One-Way ANOVA) conducted to examine differences in social

capital and school belonging according to a demographic variable (such as educational stage or grade level) among middle school students.

The results of the ANOVA for social capital indicate an F value of ($F = 2.34$) with a significance level of ($\text{Sig} = 0.074$), which is higher than the adopted significance level ($\alpha = 0.05$). This finding indicates that there are no statistically significant differences between group means in the level of social capital. This result suggests that students' perceptions of social capital developed during physical education and sports classes do not vary according to grade level, reflecting the shared and general nature of the social experience provided by these classes within the school environment.

Regarding school belonging, the ANOVA results revealed an F value of ($F = 1.89$) with a significance level of ($\text{Sig} = 0.133$), which is also greater than (0.05). This indicates the absence of statistically significant differences in students' levels of school belonging according to the studied variable. This means that students' sense of belonging to their educational institution is relatively similar across different grade levels and is not substantially influenced by the educational stage within middle school.

These findings lead to the acceptance of the null hypothesis, which states that there are no statistically significant differences in either social capital or school belonging according to the demographic variable under study. Furthermore, the results confirm that physical education and sports classes constitute a unified educational setting that contributes to building social relationships and enhancing school belonging among students, regardless of differences in grade level. This supports the sociological perspective that views the school as an integrated social system.

7. Discussion of the Results in Light of the Hypotheses

The results of this study confirm the positive role of physical education and sports in promoting both social capital and school belonging among middle school students. The first hypothesis, which suggested that PE and sports contribute to building social capital, was supported by the high mean score for social capital observed in the sample. This indicates that participation in PE classes fosters social relationships, cooperation, and mutual trust among students, consistent with the collective and interactive nature of sports activities. These findings align with Gunay Yildizer et al. (2018), who reported a positive correlation between physical activity and adolescents' social networks and trust, as well as with Bsaoud Thamer & Sadeghi Ali (2023) and Novak et al. (2025), who highlighted the role of recreational and school-based activities in strengthening social connections and support networks.

The second hypothesis, concerning the role of PE and sports in enhancing school belonging, was also confirmed. Students demonstrated a strong sense of acceptance, integration, and pride in their school, which can be attributed to the emotional and participatory experiences provided by PE activities. These results are consistent with Goodenow (1993), Finn (1989), Osterman (2000), and Gazi Sayyed Youssef et al. (2024), all of whom emphasized that engagement in school activities, particularly sports, strengthens attachment and belonging to the educational institution.

The third hypothesis, which proposed a statistically significant relationship between social capital and school belonging, was confirmed through a strong positive correlation ($r = 0.64$, $p < 0.01$). This indicates that students with higher levels of positive social interactions and cooperation also experience a greater sense of belonging to school. This result is supported by Putnam (2000), Tajfel

& Turner (1979), and Holt et al. (2011), all highlighting the crucial role of social networks and group participation in enhancing cohesion, integration, and a sense of belonging.

Finally, the fourth hypothesis examined gender differences in social capital and school belonging. The results showed that females scored higher in social capital, which is consistent with Eccles & Harold (1991), who noted that females tend to engage more in cooperative and positive social interactions. However, no significant gender differences were found in school belonging, reflecting that this sense of attachment is shared across genders, consistent with Bang et al. (2024), who reported that school sports activities equally promote belonging among all students. Consequently, the fourth hypothesis was partially supported.

Overall, the findings demonstrate that physical education and sports provide a structured and equitable environment that simultaneously enhances social capital and school belonging, supporting both theoretical perspectives and previous empirical studies.

8. Summary of the Discussion in Light of the Hypotheses

In light of the above, the study's findings confirm the validity of most of the proposed hypotheses and highlight the pivotal role of physical education and sports in building social capital and enhancing school belonging among students. This underscores the significance of PE as an effective educational and sociological domain within the school environment.

9. Conclusions.

Based on the study objectives and statistical analysis results, several scientific conclusions can be drawn, emphasizing the sociological and

educational role of physical education and sports within the school context, as follows:

- ✓The level of social capital among students is high, indicating that PE classes provide a suitable environment for building positive social relationships and fostering values of cooperation, mutual trust, and teamwork among students.
- ✓The level of school belonging is high, reflecting students' sense of integration and attachment to their educational institutions, as well as their comfort within the school environment, particularly during participation in sports activities.
- ✓A strong positive correlation exists between social capital and school belonging, confirming that higher levels of social relationships, trust, and cooperation among students are accompanied by a greater sense of belonging to their educational institution. This supports the sociological perspective that considers social capital a key determinant of school belonging.
- ✓Statistically significant gender differences were found in social capital in favor of females, indicating that female students are more inclined to build positive social relationships and engage in cooperative interactions during PE classes.
- ✓No significant gender differences were observed in school belonging, suggesting that the sense of belonging to the educational institution is a shared value among both genders and is not substantially affected by gender.
- ✓No significant differences were observed according to grade level, reflecting the uniform impact of PE classes across different years of middle school.

✓The sociological role of PE is confirmed: physical education and sports are not merely physical or recreational activities but rather serve as an effective educational and social space that fosters social capital and enhances school belonging through interactive situations based on cooperation, integration, and mutual respect.

10. CONCLUSION

This study aimed to shed light on the role of physical education and sports as an educational and social space in building social capital and enhancing school belonging among middle school students in the Algerian school context. The findings, based on descriptive and inferential analysis, revealed high levels of both social capital and school belonging among the sample, highlighting the educational and social importance of PE within the school.

Furthermore, the study showed a statistically significant positive correlation between social capital and school belonging, indicating that fostering positive social relationships based on cooperation and trust within PE classes directly enhances students' sense of belonging to the school. These findings are consistent with sociological and educational literature emphasizing that group activities are a fundamental means for building social cohesion and reinforcing collective identity within educational institutions.

Accordingly, the study confirms that physical education and sports should not be limited to their physical or recreational aspects but should be viewed as a strategic educational tool that contributes

to building social capital, improving the school climate, and enhancing student integration within the educational environment.

Study Recommendations.

In light of the obtained results, the study recommends the following:

- ✓ Enhance the social dimension of physical education (PE) lessons by focusing on group activities that promote cooperation, communication, and respect for others.
- ✓ Provide pedagogical and sociological training for PE teachers, enabling them to utilize lessons as a space for building positive social relationships.
- ✓ Integrate objectives related to social capital and school belonging into the official PE curriculum.
- ✓ Encourage school administrations to support school sports activities as a means to strengthen social cohesion and reduce instances of school violence.
- ✓ Motivate students to participate regularly in sports activities both during and outside formal classes, given their positive impact on school integration.
- ✓ Emphasize cooperative sports activities over individual ones, as they play a greater role in fostering social relationships.

Study Limitations

Despite the significance of the obtained results, the current study has certain limitations, including:

- ✓ Methodological limitations: The study was limited to a descriptive-analytical approach, which does not allow for precise determination of causal relationships between the studied variables.
- ✓ Population limitations: The study included only middle school students, which restricts the generalizability of the findings to other educational levels.
- ✓ Instrument limitations: The study relied on a questionnaire, which may be subject to self-report biases among students.
- ✓ Spatial limitations: Although the sample included students from multiple provinces, the results remain specific to the Algerian school context and cannot be generalized to other educational contexts.
- ✓ Temporal limitations: The study was conducted within a specific time frame, and the results may vary under different school conditions or temporal contexts.

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