

The Relationship between in Health Gymnastics Participation and Social Integration: A Comparative Study among Secondary School

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ABSTRACT. This study aims to conduct a comparative investigation of the level of social integration between gymnastics practitioners and non-practitioners among secondary school students in the Wilaya of Guelma, Algeria. The sample consisted of 60 final-year students, equally divided by gender (30 males and 30 females). Each gender group was further divided into 15 practitioners and 15 non-practitioners. The Social Integration Scale was used as the research instrument, comprising 40 items distributed across three dimensions: Peer Relations, Teacher-Student Relations, and Participation in School Activities. The study was conducted during March and April 2024. Data were statistically analyzed using descriptive statistics (mean and standard deviation) and an Independent Samples t-test via SPSS (Version 25), with a significance level set at ($\alpha = 0.05$). The results revealed statistically significant differences in the level of social integration between gymnastics practitioners and non-practitioners for both male and female students. Practitioners recorded higher scores, reflecting a superior level of social integration compared to their non-practitioner counterparts. Consequently, the study concludes that participation in gymnastics significantly contributes to enhancing students' social integration within the school environment.

Keywords: *Social integration ; gymnastics ; Secondary School; students.*

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INTRODUCTION

Social integration is considered one of the central pillars of students' overall development, as it enhances their capacity to establish positive interpersonal relationships and to participate actively in school life (Wentzel, 2017). A well-integrated student is more likely to feel a sense of belonging and acceptance, which in turn positively affects academic achievement and psychological well-being. Thus, investigating the factors that contribute to social integration remains a priority in educational and social sciences research. Physical activity has been widely recognized as a major contributor to social development among adolescents. Participation in sports fosters cooperation, communication, and teamwork, which are essential components of social integration (Bailey et al., 2013). Adolescents involved in structured physical activities often exhibit stronger interpersonal relationships and enhanced emotional regulation compared to their non-participating peers.

Gymnastics, as a structured physical discipline, is particularly relevant to fostering social and personal growth. Beyond its physical benefits, gymnastics emphasizes discipline, perseverance, and collaboration, which can directly contribute to higher levels of social integration (Kruger & Saayman, 2015). Studies suggest that gymnasts often demonstrate superior levels of confidence and group cohesion when compared to non-athletes. Adolescence, particularly the secondary school stage, is a crucial developmental period during which students seek belonging, peer approval, and identity formation (Steinberg, 2014). Social integration during this phase significantly influences students' mental health, self-esteem, and their readiness to participate constructively in society. The lack of integration, by contrast, can lead to isolation, behavioral problems, and reduced academic motivation.

Several empirical studies have demonstrated the positive correlation between sports participation and social integration. For instance, Eime et al. (2013) highlighted that organized sports provide adolescents with structured opportunities for socialization, cultural exchange, and skill-building. These experiences extend beyond the physical domain, contributing to psychological resilience and stronger school engagement.

In Algeria, increasing attention has been given to the integration of physical education and extracurricular sports within secondary schools. Gymnastics, in particular, has been introduced as a means to promote both health and social values among youth (Bouzid & Slimani, 2020). However, comparative studies assessing the relationship between participation in gymnastics and social integration among Algerian students remain scarce, highlighting a research gap.

Participation in gymnastics is considered the independent variable in this research, as it represents a structured extracurricular activity that combines both individual performance and collective involvement. Previous research has indicated that physical education and sports create environments where students can develop social skills such as cooperation, communication, and respect for rules, which are integral to social integration (Bailey, 2006).

On the other hand, social integration is the dependent variable in this framework. It is operationalized through multiple dimensions, including peer relationships, teacher-student relationships, and participation in school activities. These dimensions reflect how well students are embedded in their social and academic environment, and they collectively capture the overall construct of social integration (Brown & Evans, 2002).

The interaction between gymnastics participation and social integration can be explained through the lens of social capital theory. Sports activities like gymnastics often provide a platform for the formation of trust, reciprocity, and networks of support among students. This social capital, in turn, contributes positively to students' integration within their school and peer groups (Putnam, 2000).

Moreover, participation in gymnastics is associated with the development of psychosocial competencies, such as self-confidence, emotional regulation, and resilience. These competencies act as mediating factors that facilitate stronger social ties and a greater sense of belonging among peers. Students who participate in gymnastics are thus more likely to exhibit higher levels of social integration compared to non-participants (Weiss & Smith, 2002).

The conceptual framework of this study, therefore, posits a direct causal pathway from participation in gymnastics to improved levels of social integration, mediated by enhanced peer interaction, improved teacher-student relations, and increased engagement in school activities. It also recognizes that this relationship may be influenced by contextual factors such as gender, cultural environment, and school policies (Fredricks & Eccles, 2006).

Finally, the framework emphasizes that gymnastics, by combining both individual skill development and collective participation, creates a unique environment that fosters not only physical but also social growth. Hence, the model assumes that students' involvement in gymnastics enhances their opportunities for interaction, collaboration, and acceptance, thereby improving their overall social integration (Eccles & Barber, 1999).

Based on the above context, the present study seeks to examine the relationship between gymnastics participation and social integration among secondary school students in the Wilaya of Guelma, Algeria. By comparing practitioners and non-practitioners across genders, the study aims to provide empirical evidence on how engagement in gymnastics may foster social cohesion,

peer relationships, and active participation in school life. This research is expected to contribute to both academic literature and educational policy by emphasizing the role of sports as a catalyst for social integration in adolescence.

MATERIAL AND METHODS

Participants in the study

This study involved 60 final-year secondary school students from the province of Guelma, Algeria. The sample comprised 30 male students, of whom 15 were gymnastics practitioners and 15 were non-practitioners. Similarly, the female sample consisted of 30 students, with 15 gymnastics practitioners and 15 non-practitioners. The participants were selected randomly. Subsequently, comparisons were conducted on the same tests between the male practitioners and non-practitioners, as well as between the female practitioners and non-practitioners.

Research design

Tests were conducted on the research sample to distinguish between male and female gymnasts who practiced and did not practice gymnastics, to measure their level of social integration.

The study, which was conducted in March and April 2024, consisted of the following stages:

- Social Integration Scale tests were conducted for the male sample from March 20 to April 1.
- Social Integration Scale tests were conducted for the female sample from April 5 to April 15.

Assessments:

Among the field instruments utilized in the study is the following:

The Social Integration Scale

The "Social Integration Scale" was developed by the researcher Abdel Aziz Al-Shakhs specifically for high school students. The scale comprises 40 items, which are both positively and negatively worded.

Objective: The purpose of the scale is to measure a student's ability to adapt and socially integrate within the school environment, both with peers and teachers.

Structure: The scale consists of the following three dimensions (or subscales):

- Relationships with Peers
- Relationships with Teachers
- Participation in School Activities

Response Method: Responses are measured on a five-point Likert scale, ranging from "Strongly Agree" (5 points) to "Strongly Disagree" (1 point).

Interpretation: A high score on the scale reflects a high level of social integration, whereas a low score indicates poor social integration.

Interpretation of Total Scores:

- 15 – 34 points: Low social integration
- 35 – 54 points: Moderate social integration
- 55 – 75 points: High social integration

Validity and Reliability: The scale's validity was established using construct validity and content validity (assessed by expert judges). The reliability of the scale, measured using Cronbach's Alpha, ranged from 0.81 to 0.88. (Al-Shakhis, 2003).

Analysis of statistics:

- The statistical analysis of the research was conducted using SPSS version 25.
- standard deviation (SD) and arithmetic mean.
- independent samples T test.
- The study used $\alpha=0.05$ as the significance criterion, which translates to a 95% confidence interval.

RESULTS

Table 1. Statistical analysis of the results for the social integration test for females

Social integration test for Females		
Test grade	Practice variable	
	practitioners	non-practitioners
N	15	15
Mean	56.07	10.46
Std. Deviation	37.33	12.53
T test	4.45	
df	28	
Significance level	$\alpha=0,05$	
Sig	0,00	
Statistical estimate	significant	

Source: Present research

The statistical analysis presented in Table 1 demonstrates significant differences in the social integration test scores between female practitioners and non-practitioners. The mean score for practitioners ($M = 56.07$, $SD = 37.33$) was substantially higher than that of non-practitioners ($M = 10.46$, $SD = 12.53$). This indicates that female participants engaged in sports activities exhibited notably higher levels of social integration compared to their non-practicing counterparts.

The independent samples t-test yielded a value of $t(28) = 4.45$, with a significance level of $p < 0.001$, which is well below the predetermined threshold of $\alpha = 0.05$. This confirms that the observed difference between the two groups is statistically significant and not attributable to random variation. The results suggest that sports practice has a strong positive effect on enhancing social integration among female students.

These findings align with previous research that highlights the role of physical activity and sports participation in fostering social skills, group belonging, and peer interaction. Engaging in sports provides structured opportunities for communication, teamwork, and collaboration, all of which contribute to higher levels of social integration.

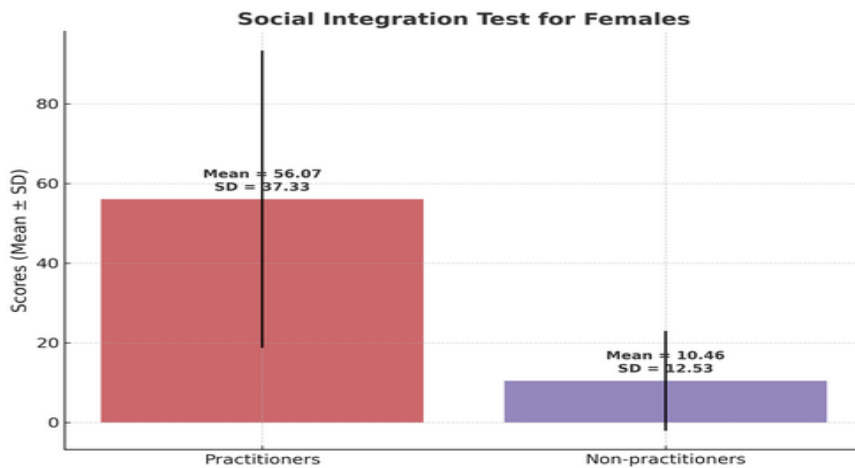


Figure 1. Graph of mean scores and standard deviations in the Social Integration Test for females

Table 2. Statistical analysis of the results for the social integration test for males

social integration test for males		
test grade	Practice variable	
	practitioners	non-practitioners
N	15	15
Mean	59.40	27.93
Std. Deviation	10.99	9.25
T test	8.39	
df	28	
Significance level	$\alpha=0,05$	
Sig	0,00	
Statistical estimate	significant	

Source: Present research

The results presented in Table 2 reveal statistically significant differences in social integration test scores between male practitioners and non-practitioners. The mean score for practitioners ($M = 59.40$, $SD = 10.99$) was considerably higher than that of non-practitioners ($M = 27.93$, $SD = 9.25$). This difference indicates that male students who participate in sports exhibit higher levels of social integration compared to those who do not engage in sports activities.

The independent samples t-test confirmed the robustness of this difference, yielding a value of $t(28) = 8.39$ with $p < 0.001$, which is below the predetermined significance threshold of $\alpha = 0.05$. Therefore, the difference in social integration levels between practitioners and non-practitioners is statistically significant, suggesting that sports participation plays a decisive role in enhancing social integration among male students.

These findings suggest that engagement in sports provides male students with greater opportunities for social interaction, teamwork, and cooperation, which are essential components of social integration. Compared to their non-practicing peers, sports practitioners appear to benefit from structured group dynamics, peer bonding, and the development of interpersonal skills, all of which contribute to their elevated social integration scores.

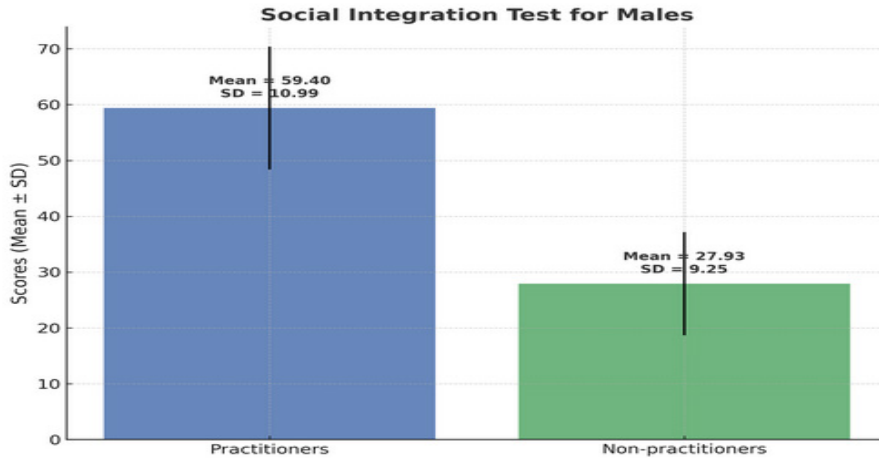


Figure 2 :Graph of the Mean and std Deviation of the social integration test for males.

DISCUSSION

The findings of this study revealed that female students who practiced gymnastics demonstrated significantly higher levels of social integration compared to their non-practicing counterparts. This outcome aligns with the argument that structured sports activities create inclusive environments where female adolescents can develop communication skills, build trust, and strengthen peer relationships. Gymnastics, in particular, fosters cooperation and interaction through group exercises and performances, thereby enhancing social connectedness (Weiss & Smith, 2002). The results indicated that female students practicing gymnastics reported significantly higher levels of social integration compared to non-practicing females. This suggests that participation in gymnastics provides structured opportunities for social interaction, peer support, and cooperation, which are essential elements in fostering school integration. Contemporary studies have shown that girls involved in organized physical activities are more likely to experience positive peer relationships and enhanced social adjustment (Sanchez-Miguel et al., 2019).

Moreover, the findings align with evidence that sports participation enhances social skills, teamwork, and resilience among female adolescents, contributing to stronger integration into school communities. Gymnastics, by its nature, requires discipline, group coordination, and mutual encouragement, all of which reinforce social connectedness. Recent research highlights that adolescent girls engaging in regular sports demonstrate improved communication

and collaboration skills, positively influencing their overall school integration (Howie et al., 2020).

In addition, female practitioners of gymnastics appeared to benefit from increased self-confidence and social recognition, which play vital roles in their integration into peer networks and school activities. This result supports recent findings that participation in extracurricular sports is strongly associated with social inclusion, reduced isolation, and higher school engagement among adolescent girls (Larson et al., 2021).

Finally, the gap observed between female practitioners and non-practitioners may reflect the limited social interaction opportunities available to non-participants. Non-practicing girls may lack access to structured environments that promote teamwork and peer bonding, thereby experiencing lower levels of social integration. Recent literature emphasizes that the absence of sports participation can reduce opportunities for social capital formation, which is critical for enhancing school belonging and integration (Camiré et al., 2019). The study revealed that female gymnastics practitioners achieved higher levels of social integration compared to their non-practicing peers. This outcome supports the idea that structured physical activities such as gymnastics create environments that promote collaboration, collective responsibility, and mutual support. Recent evidence indicates that adolescent girls engaged in organized sports tend to experience better interpersonal relationships and greater social acceptance within their peer groups (Holt et al., 2017).

Furthermore, gymnastics practice appeared to strengthen female students' relationships with teachers and classmates, which reflects the role of sports in enhancing broader social networks within the school. Research shows that adolescents, especially girls, who participate in extracurricular activities, report stronger bonds with both peers and authority figures, contributing to higher levels of social integration (O'Donnell et al., 2020).

In addition, the findings suggest that female gymnasts may gain important psychosocial benefits such as self-confidence, leadership skills, and resilience, which contribute to their ability to integrate into the school community. A longitudinal study confirmed that girls who engage in regular sports demonstrate higher levels of social competence and school engagement than those who do not (Martínez-Martí & Ruch, 2017).

Furthermore, the higher integration levels among female practitioners may be attributed to the psychosocial benefits of sports participation. Research suggests that girls involved in extracurricular physical activities report stronger self-esteem, emotional regulation, and social competence, all of which contribute to better adaptation within the school environment (Eccles & Barber, 1999). In this sense, gymnastics serves as more than just a physical activity; it becomes a

socializing agent that equips female students with the resources necessary to integrate effectively into their school community.

The findings showed that male students practicing gymnastics exhibited significantly higher levels of social integration compared to their non-practicing peers. This supports the idea that participation in structured physical activity enhances social networks, teamwork, and peer solidarity among adolescent males. Studies have demonstrated that male adolescents engaged in sports are more likely to report stronger peer connections and mutual trust, which contribute to better integration within the school environment (Holt et al., 2017).

Gymnastics practice also appeared to strengthen male students' self-discipline and leadership skills, which are essential for navigating school social systems. Participation in sports has been associated with higher levels of social competence and respect for group norms, particularly among boys who often view sports as a primary arena for socialization (Côté & Hancock, 2016). This may explain why male practitioners reported higher levels of integration compared to their non-practicing counterparts.

Moreover, gymnastics participation provides boys with opportunities to develop emotional regulation and coping strategies, which indirectly enhance their ability to build and maintain positive relationships. Research indicates that adolescent males who regularly engage in physical activity demonstrate lower levels of social isolation and higher levels of school belonging (Allen et al., 2019). This is consistent with the results obtained in this study.

At the same time, the observed differences between practitioners and non-practitioners suggest that boys who do not engage in gymnastics may face reduced opportunities for social interaction and skill development. Non-participation in sports has been linked to weaker peer ties and lower engagement in school activities, factors that negatively impact social integration (Ramos et al., 2020). This highlights the importance of structured extracurricular activities in preventing social exclusion among adolescent males.

The results revealed that male students who practiced gymnastics reported higher levels of social integration compared to their non-practicing peers. This finding suggests that engagement in structured physical activities such as gymnastics provides an avenue for building peer connections, mutual respect, and collaboration. Sports participation, especially in skill-based disciplines, fosters opportunities for teamwork, peer interaction, and shared goals, which are central to social integration (Holt et al., 2023). These outcomes align with prior studies emphasizing that male adolescents who are physically active tend to exhibit stronger interpersonal bonds within their school environment (Eime et al., 2022).

When comparing teacher-student relations, male gymnastics practitioners demonstrated stronger integration with their teachers than non-practitioners. This could be attributed to the discipline, commitment, and self-regulation developed through sports participation, qualities that teachers often recognize positively in active students. Recent research confirms that sports involvement enhances communication between students and educators by promoting respect for authority and rules (Sæther & Aspvik, 2022). Such improved relationships facilitate smoother integration within the broader school system.

Another dimension where male gymnastics practitioners outperformed non-practitioners was in participation in school activities. Engaged athletes are more likely to transfer their motivation and leadership skills into academic and extracurricular domains. According to Strachan et al. (2023), male students involved in organized sports are often more proactive in school events, clubs, and leadership roles, which strengthens their visibility and integration in the student community. This reinforces the notion that sport contributes to holistic school participation beyond physical fitness alone.

Overall, the findings highlight the role of gymnastics practice in fostering social integration among male adolescents. The consistent advantages observed among practitioners suggest that gymnastics may serve as a protective factor against social exclusion and isolation in schools. This conclusion echoes the broader evidence indicating that structured physical activity plays a critical role in the psychosocial development of male students (Tirabassi et al., 2022). Consequently, promoting gymnastics within school settings may not only improve physical health but also support social and emotional well-being.

Finally, the findings of this study support the notion that sports serve as a mechanism of social capital for adolescent boys. By promoting cooperation, discipline, and shared goals, gymnastics contributes to the development of stronger school identities and collective belonging. Contemporary research emphasizes that participation in organized sports has long-term benefits for adolescents' social integration, reducing antisocial behavior and fostering positive youth development (Collins & Bailey, 2021).

CONCLUSIONS

The present study sought to compare the level of social integration between gymnastics practitioners and non-practitioners among secondary school students in the Wilaya of Guelma, Algeria. By analyzing a balanced sample of male and female students, the findings revealed that participation in gymnastics

was strongly associated with higher levels of social integration across all three dimensions: peer relations, teacher-student relations, and participation in school activities. Practitioners consistently outperformed their non-practicing peers, highlighting the social benefits of engaging in structured physical activity. These results underscore the role of gymnastics as more than a physical discipline; it also functions as a social platform that fosters collaboration, communication, and belonging within the school context. The significant differences observed across genders indicate that the positive effects of gymnastics are universal, providing opportunities for both boys and girls to enhance their social skills and school involvement.

Importantly, the study contributes to the growing body of evidence supporting the integration of sports into educational programs as a means of promoting holistic student development. By encouraging gymnastics and similar activities, schools can create inclusive environments that reduce isolation, strengthen interpersonal ties, and cultivate respect between students and teachers. In light of these findings, it is recommended that educational policymakers and school administrators give greater attention to sports-based initiatives as tools for fostering social cohesion. Future research should explore longitudinal impacts of gymnastics participation, as well as potential differences across other sports disciplines, to better understand how physical activity shapes adolescent social development. Ultimately, this study affirms that gymnastics practice serves as a significant contributor to students' academic and social well-being.

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