

Sports Activities for Individuals' Physical Benefits and Cognitive Resilience: A Content Analysis on the Association between Sports and Public Health in Algeria

Dr. Mohamed Cherif Seddiki¹, Dr. Mohamed Raouan², Pr. Bachir Kerroum³, Pr. Atallah Trif⁴

^{1,2,3,4} University of Amar Telidji Laghouat (Algeria).

E-mail of Authors: ¹m.seddiki@lagh-univ.dz, ²m.raouan@lagh-univ.dz, ³b.karoum@lagh-univ.dz, ⁴a.trif@lagh-univ.dz

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Abstract:

The crucial role of sports activities in enhancing individuals' overall wellness and psychological stability, and thus public health, is plainly undeniable. Therefore, this study aimed to provide new ways to remedy the deterioration of public health, particularly cognitive functions, by revisiting the emerging trends and re-reading the current literature and the implications for promoting physical and mental wellness in Algeria. Sports activities have undoubtedly transcended their traditional targets to emerge as a powerful catalyst for cognitive resilience and personal development, and this study examines the extent to which sports activities can turn around the lives of individuals and groups. Reviewing the written and visual content related to participation in sports activities could reveal many accounts on the influence of sports upon physical and mental abilities. Surveys and interviews were also useful for gathering data on physical health, mental well-being, and overall satisfaction. Collectively, these instruments help assess different factors, namely exercise frequency, perceived stress levels, self-esteem, and many other relevant mental indicators. Briefly, this study can in several ways offers promising paths for effective practices for wellness development and mental health maintenance not only in Algeria.

Keywords: Public health; Cognitive Resilience; Wellness; Personal Development.

1. Introduction

Undoubtedly, sports activities play a crucial role in transforming individuals' well-being and psychological abilities. Engaging in any kind of sports activity can help individuals experience a range of physical benefits, which in turn contribute to their overall well-being. Over time, sports activities have proven to be a practice to level up physical fitness, allowing individuals to lead healthier lifestyles and reduce the risk of chronic diseases or ailments. Engagement in sports can enhance motor skills and coordination, thereby leading to improved physical performance in various areas of life. Sports activities increase energy levels and stamina, enabling individuals to cope better with daily tasks and challenges. On the mental fence, participating in sports has been found to reduce stress and anxiety levels, providing individuals with a relaxed mental outlet. Furthermore, sports activities boost mood and emotional well-being, leading to increased happiness and a more positive outlook. Lastly, self-esteem and confidence are further outcomes of sports activities, as individuals achieve personal goals and develop a sense of accomplishment, getting the most of their daily schedules. In short, it can be said that sports activities can have a transformative influence on individuals' wellness and psychological stability.

This study aimed to trace the impact of sports engagement on physical health and mental well-being with a focus on understanding how participation in sports can contribute to physical fitness and cognitive resilience. It stresses that public health in Algeria still requires additional efforts; expenditure on individuals' health and well-being is currently below average (OMS Algeria, 2021). Therefore, this study sought to provide insights and practices for promoting and enhancing public health through sports. It tries to determine in what ways sports activities can level up one's cognitive and physical abilities, including improvements in concentration, problem-solving skills, executive functioning coupled with energy levels, and healthier lifestyles. This study adds depth and nuance to the global understanding of the mutual link between physical activity and

psychological well-being on the one hand, and physical activity and personal achievement on the other hand, paving the way for more elaborate theories and experiments; it is valuable in the sense that it provides recommendations for application in settings such as schools, community programs, healthcare, and workplace wellness initiatives. In other words, the study has an educational value in favor of coaches, athletes, and individuals interested in wellness, as it serves as a resource for understanding the potential cognitive and psychological benefits of sports engagement and how to optimize these advantages.

2. The Review of Literature

Tracing the reasons for the deterioration of public health in Algeria has recently attracted the interest of a considerable number of researchers and research institutions, particularly after the alarming figures on the exacerbation of cognitive functioning among adults (Figure 1). This attempt focused on the mutual relationship between sports activities and cognitive resilience, and thus, the changes felt upon public health, arguing the seminal value of sports activities in strengthening physical abilities, mental functions, and even developing social benefits. This can incredibly transform individuals' health, leading to several benefits in many sectors, particularly the economic sphere. Therefore, this literature explores recent research findings and content on this topic, highlighting the extent to which research has prioritized the value of public health and the ways to develop healthcare in general. It theoretically explores which common practices and key empirical evidence in the existing literature can help consolidate health matters in general. Finally, this study concludes with recommendations for individuals and groups in different sectors to promote mental health and cognitive resilience through sports.

Figure 1: Mental Health Workforce in Algeria



Source: WHO. (2020). Country Profile Data. Mental Health Atlas 2020. <https://cdn.who.int>

In the last few years, mainly after the COVID-19 pandemic, there has been a growing interest in understanding the impact of sports activities on health in general, and cognitive resilience in particular. The latter refers to the ability to effectively adapt to and cope with stressors, challenges, and adversities, whereas mental health encompasses emotional, psychological, and social well-being. This review analyzes previous studies on how engagement in sports activities may influence cognitive resilience and, thus, public health outcomes. The Transactional Model of Stress and Coping, Social Cognitive Theory, and Self-Determination Theory are prominent frameworks used to understand the mechanisms underlying the relationship between sports and cognitive functioning. However, it was very helpful to analyze the written content drawn from recent samples and case studies to understand the role of physical activity, social interaction, and self-efficacy gained from sports activities in the betterment of individuals' health. Accordingly, a combination of tools and methods were used to assess the association between mutual sports activities and health and cognitive resilience.

In her article entitled: "The Association between Sports Participation and Physical Fitness," Tahira (2022) examined how sport can influence physical fitness. She affirmed that sports participation plays a positive role in transforming physical abilities, particularly in club sports. This could lead to improved endurance and

strength. Sports activities can significantly affect cardiorespiratory fitness, anaerobic performance, and muscular strength. However, this study did not address potential confounding factors that may influence the association between sports participation and physical fitness. The researcher did not explore the long-term effects of sports participation on physical fitness across different age or focus groups. This paper does not invite readers to be aware of the recommendations for future research or areas that need further investigation in this field.

Another article entitled, “The Association between Sports Participation and Mental Health across the Lifespan.” Tahira (2023) affirmed that sports activities are inextricably connected to lower levels of depression, anxiety, and stress. In many sections, she reminds readers of the fact that regular engagement in sports activities is associated with individuals’ well-being and contributes to both self-esteem and self-confidence. Exceptionally, in this study, the researcher showcases the positive effects of sports on mental health in both children and adults and that they are not limited to a specific age group. She concluded that sports activities can be an effective strategy for enhancing mental health across the lifespan. However, the study did not explore the specific areas or ways in which sports participation may impact mental health.

The reviewed articles reported positive associations between sports activities, cognitive resilience, and mental health outcomes. Regular engagement in sports has been associated with decreased stress levels, anxiety, and depression symptoms, in the same way as enhancing self-esteem, overall well-being, and cognitive functions. Team sports has demonstrated additional benefits through social support, positive peer relationships, and a sense of belonging. However, some studies relied on self-report measures, which may have introduced bias. Intervention studies are required to establish causal relationships and to determine the long-term effects of sports activities on cognitive and mental health. Further investigations are needed to explore the influence of specific types of sports activities such as aerobic exercise, team sports, and individual sports on different focus groups. It is also important to note that some studies reported inconclusive evidence, indicating the need for further investigation and rigorous research design. These gaps are mainly attributed to the type and intensity of sports activities, duration of engagement, and individual differences.

Finally, this comprehensive review suggests implications and recommendations for sports communities in relation to public health. Given the positive associations between sports activities and cognitive resilience as well as mental health outcomes, incorporating sports programs and sessions into educational and therapeutic settings may be beneficial in improving health. Educators, coaches, and mental health professionals can utilize sports activities as tools to promote cognitive resilience, enhance mental well-being, and facilitate personal development meetings. Similarly, a considerable number of studies on how mutual sports activities are associated with individuals’ health and wellness consistently indicate a positive relationship between engagement in sports activities and health, mainly cognitive resilience. The findings reported that sports activities have the potential to reduce stress levels, anxiety, and depression symptoms, and that they even improve self-esteem, confidence, and many other social skills. However, further research, including focus group studies, is needed to establish other relationships and further explore the mechanisms underlying these associations.

3. Methods:

To investigate the impact of sports activities on cognitive resilience and mental health, a mixture of methods ranging from quantitative to qualitative approaches, coupled with experimental designs such as focus groups, surveys, and interviews, has been used. A total of 104 respondents participated in this survey regarding the connection between public health and sports activities. It is worth mentioning that the nature of this study requires a combination of tools and methods to assess cognitive resilience and mental health outcomes, such as stress, anxiety, depression, self-esteem, and overall well-being. Content analyses have provided valuable insights into the experiences and perspectives of athletes, coaches, and individuals interested in sports.

4. Results:

The findings of this study are in accordance with those of many previous studies on the relationship between sports activity and public health. Surprisingly, regarding public health in Algeria, the survey revealed that 21% of the respondents had heard of collective or public health. 84% affirmed that an individual’s physical fitness could positively influence public health. The most striking fact is that 85% of the respondents denied the relationship between public health and the nation’s social, economic, and even political development. 90% of respondents reported that it was possible to maintain public health conditions through sports activities.

Additionally, 28% of the respondents said that sports activities can help enhance physical and mental health, 20% reported that sports activities can develop intellectual and cultural abilities, 17% affirmed that sports can help succeed in professional life, and 35% of the respondents declared that sports activities can transform the lives of individuals in the sense that they develop physical fitness, mental health, and professional and personal life.

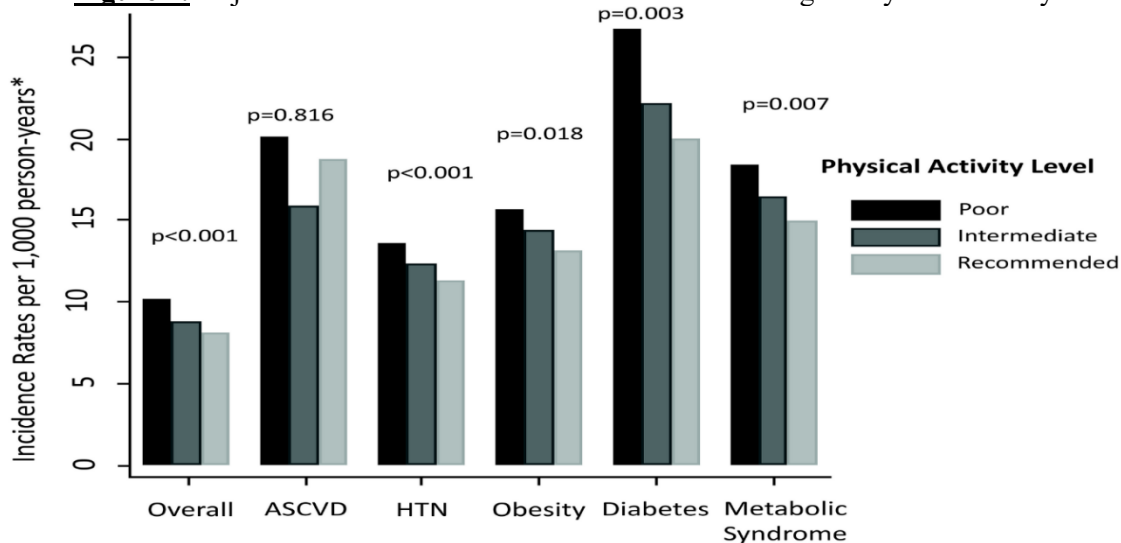
Content analyses revealed that sports activities can notably influence physical fitness and that moderate physical activity has a positive impact on the cardiovascular system and heart muscles; it can incredibly limit the occurrence of chronic diseases, such as obesity and diabetes. Sports activities can develop participants' motor skills and are likely to improve their hand-eye coordination, agility, balance, and reaction time. Moreover, sports activities have a tremendous impact on both energy levels and stamina. These findings showed that physical activity can lead to improvements in oxygen transport and utilization. Accordingly, this will increase the efficiency of energy production, which means individuals' ability to perform tasks with less fatigue. Third, at the level of mental abilities, sports activities can help improve cognitive function in the sense that all participants in sports are immune to stress levels, anxiety, and depression. They are likely to build social relations, experience success, and realize more accomplishments and personal projects.

5. Analyzing and Discussing the Findings

5.1. Sport Activities as a Transformative Influence on Physical and Mental Health

Sports activities have been shown to have a transformative impact on individuals' wellness and psychological stability. For many athletes and individuals, who have been for a while engaged in regular physical activity, significant improvements have been made at the level of their physical and mental health. Sports activities promote improved physical fitness and health. Through regular participation, individuals can enhance cardiovascular endurance, strength, and flexibility. Regular participation in sports helps improve cardiovascular health by strengthening heart muscles and increasing blood circulation. This, in turn, reduces the risk of developing chronic diseases, such as heart disease and diabetes (Carbone et al., 2019). According to Florido (2020), physical activity is associated with a decreased risk of heart failure in patients with hypertension, obesity, diabetes mellitus, or metabolic syndrome (Figure 2). Similarly, sports activities promote weight management and a healthy body composition as they encourage calorie burning and muscle development (Adling & Chamle, 2021). Additionally, participation in sports enhances bone density, which helps to prevent osteoporosis and reduces the risk of fractures. The physical benefits of sports activities contribute to an individual's overall well-being and quality of life.

Figure 2: Adjusted Incidence Rates of Heart Failure according to Physical Activity



Source: <https://www.ahajournals.org/doi/10.1161/JAHA.119.014885>

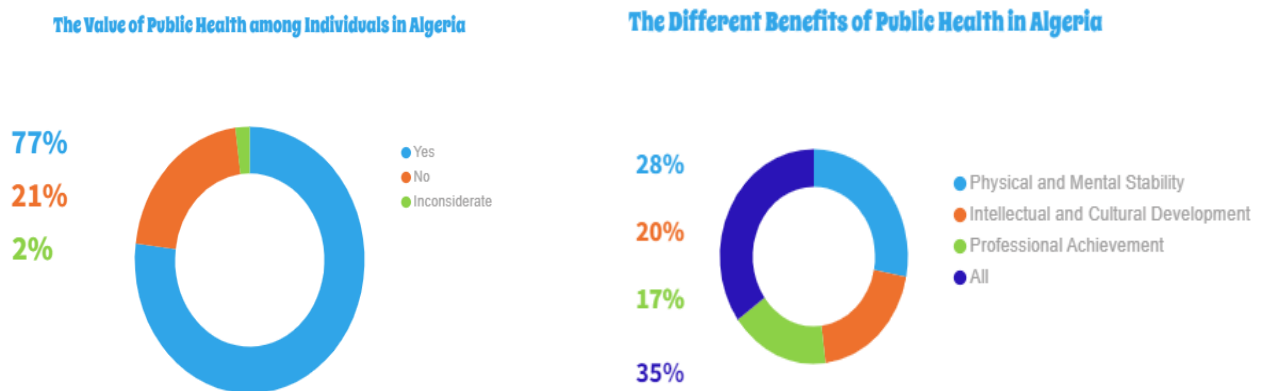
The transformative impact of sports activities on individuals' physical health and psychological stability is undeniable. In addition to cardiovascular health and immunity against chronic diseases, sports contributes to the development of motor skills and coordination, enabling individuals to become more proficient in various

physical activities. Regular engagement in sports requires individuals to use various muscle groups and to develop motor skills to perform specific actions and movements. Training in sports such as football, basketball, or gymnastics can contribute to improved hand-eye coordination, agility, balance, and reaction time (Ruggeri, Dancel, Johnson & Sargent, 2020). Individuals who engage in such activities often exhibit superior motor control and coordination compared with those with sedentary lifestyles. Consequently, through the practice of specific movements and techniques, individuals develop better agility and precision skills, which are not only important in sports, but also have significant implications for daily life activities.

Energy levels and stamina are major benefits derived from engaging in sports activities. Studies have shown that regular exercise stimulates the body's energy systems, resulting in several implications ranging from physical endurance to personal accomplishments. Capacities such as these are primarily due to physiological adaptations that occur after consistent exercise. For example, challenging the body's energy mechanisms, such as the cardiovascular and muscular systems, will lead to improvements in oxygen transport and utilization as well as increased efficiency of energy production. Individuals will, therefore, experience higher levels of energy throughout the day, which makes them able to perform tasks with less fatigue. Participation in sports activities can also enhance the body's ability to store and replenish energy reserves. Pushing the limits of one's physical capabilities through sports will surprisingly help contribute to an individual's sense of vitality and overall well-being, as they experience fewer limitations on their physical capacities. This will positively influence psychological stability and foster a sense of accomplishment and self-efficiency (Dong Hwan 2023). Overall, it is a hyperbole to ignore the transformative influence of sports activities on individuals' energy levels and stamina, which, in turn, impacts wellness and mental stability.

In Algeria, figures and responses showed that public health still drives less interest among individuals and groups, despite the importance of health conditions in many fields of life. Therefore, the Algerian state should devote additional efforts and afford appropriate means to transform public opinion on the value of public health. In other words, it is vital to launch causes and campaigns to turn around people's thoughts about the value of public health. The latter transcends physical and mental benefits at the individual and group level. The consolidation of public health can incredibly shape the nation's abilities, both political and economic, with healthy individuals being able to turn the wheels of factories and industries in different sectors. Public health schemes, particularly in Algeria, should be extended to include more than physical and mental outcomes, in the sense that personal achievements or success experiences in sporting events can indubitably overshadow the national character of the local community, according to the survey (Figure 3).

Figure 3: The Necessity to transform Public Opinion on the Value of Public Health

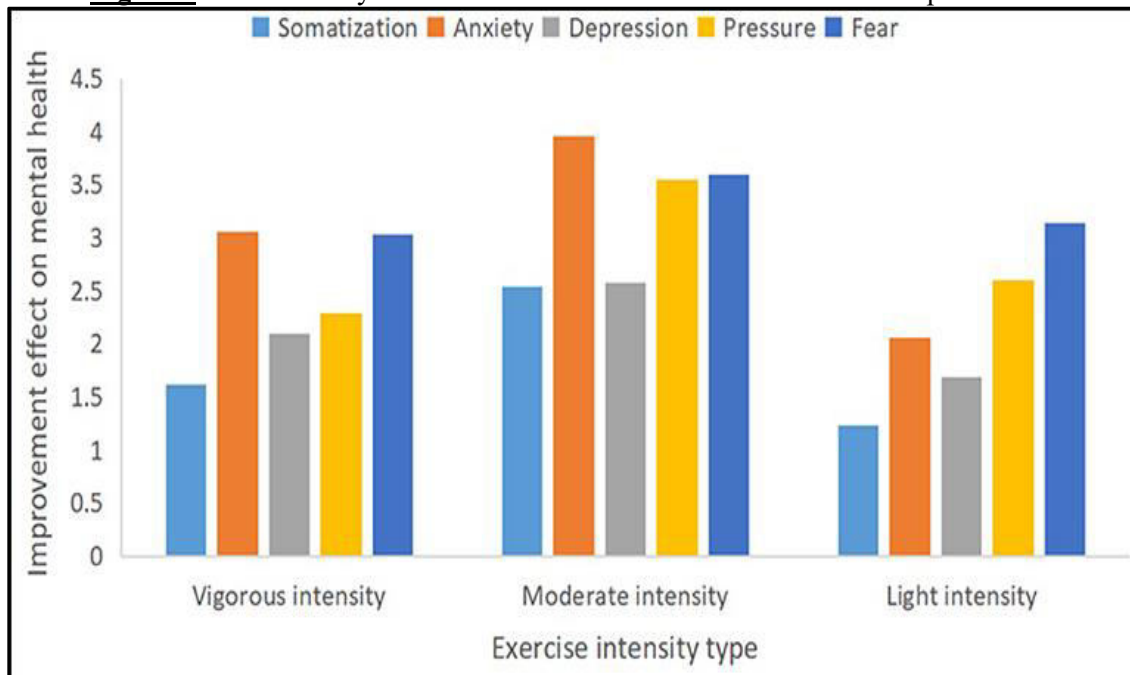


Source: <https://www.ahajournals.org/doi/10.1161/JAHA.119.014885>

At the level of psychological and cognitive abilities, sports activities have been found to have a profound impact on individuals' cognitive functions. Sports activities can reduce stress and anxiety. Physical activity involved in sports helps release endorphins, which are natural mood-boosting chemicals in the brain. Consequently, individuals experience a heightened sense of emotional well-being and improved mood (Arazi, Dadvand, & Suzuki, 2022). Sports is a way to absorb cortisol and increase the production of the "feel-good" hormones. These neurochemical changes contribute to a sense of calmness and relaxation, leading to decreased

stress and anxiety levels. Sports activities, therefore, can be a channel to release built-up tension and negative emotions, allowing athletes, coaches, and individuals to manage their daily challenges effectively. According to Yingjun (2021), moderate physical activity is needed if mental health cannot be improved (Figure 3). Moreover, team sports offers incredible social benefits. Participants can build social connections and consolidate their bonds with their outer world (Chowdhury 2023). Athletes are often better positioned to develop their sense of belonging, self-esteem and confidence, mainly when they achieve goals, or witness personal growth. Success in sports can provide individuals with a sense of self-efficacy and act as a buffer against anxiety. This distracts participants from negative thoughts, thus promoting better sleep patterns, both of which contribute to a more positive mental state.

Figure 4: Different Physical Exercise Intensities and Mental Health Improvement



Source: <https://www.frontiersin.org/articles/10.3389/fpsy.2021.722448/full#h6>

Engaging in sports not only helps individuals build a positive self-image but also fosters a deep belief in their own abilities. Achieving goals, mastering new skills, and overcoming challenges serve as channels through which individuals experience profound sense of competence and self-worth. Involving groups and teams offers insights, tips, and hacks to achieve their goals. Observing journeys as such, learning from their models' experiences, and receiving guidance from them can boost confidence and self-esteem. This heightened feeling extends far beyond the boundaries of the sports arena, profoundly impacting other aspects of life such as relationships and career schemes (Chowdhury, 2023). In other words, visualizing achievements, imagining oneself overcoming challenges, and rehearsing many skills can turn around the way one believes in one's personal abilities. Not forgetting the extent to which participants in teams and groups can broaden their social circles. The camaraderie and communal aspects of sports can leave individuals with invaluable opportunities for social interaction and recognition, further nourishing their self-esteem and boosting their overall confidence.

5.2. Public Health Advocacy Initiatives

After reviewing the significance of sports activities in transforming both physical and mental health conditions, it is time to capitalize on strategies and mechanisms to recognize sports activities as a conduit for fortifying public health. Health in Algeria is still plagued with imperfections and inefficient policies, but it is necessary to raise awareness of how sports can transcend health benefits and achieve economic, social, and even cultural outcomes. A healthy population is able to diversify the means of turning the wheels of industries and workplaces. The nation's ideals, values, and better positions at international events can also be beyond the outcomes of sporting meetings and occasions. Thus, it is a hyperbole that limits the role of sports activities in

physical fitness and mental well-being (Figure 4). In short, there must be serious schemes to harness the potential for sporting events and strategic interventions for health advocacy through different channels and partners. The following components, particularly public campaigns and educational programs, can work synergistically to improve public health and conveniently drive societal change.

The integration of health-related messages into sports events through multimedia platforms, stadium advertisements, and athlete endorsements can effectively raise public awareness and sustain health concerns. Awareness campaigns serve as helpful means of disseminating different pieces of information to a broad audience. Through social media platforms and community outreach, these campaigns can accustom a wide range of individuals on health issues, risk factors, and preventive measures. More precisely, the use of clear and evidence-based messages can help correct misinformation, reduce stigma, and encourage healthy behaviors. Nevertheless, success in engaging public opinion usually relies on how reliable campaign agencies and institutions can resonate with diverse audiences and motivate them toward health-related actions.

Another useful pool to advocate public health is the coming of health organizations, sports associations, and government entities, together with partners, to facilitate the development of health-focused initiatives within the sporting community. Collaborative partnerships bring together a range of participants from government agencies, non-profit organizations, healthcare providers, and the private sector. These diverse resources and expertise can address complex health challenges more effectively than individual efforts can. Without any doubt, collaboration fosters the management of the sharing of best practices; it promotes innovation and enhances the scalability of public health initiatives. Additionally, partnerships often leverage community leaders and local networks, ensuring that interventions, engagement, and meetings are culturally sensitive, contextually appropriate, and socially safe.

Educational resources have always been an effective means to remedy stiff imperfections; thus, the implementation of educational programs, mainly those that foster healthy lifestyles, nutrition, and preventive healthcare at sporting events, can tremendously empower individuals to make better choices about their well-being. Educational schemes and resources commonly focus on building knowledge and skills among individuals and communities. These means may target specific groups, such as students, parents, or healthcare workers, to equip them with the methods and tools required to make informed health decisions. Educational initiatives range from school-based curricula to community workshops and professional training sessions. Again, health literacy via institutional entities can help empower people with practical knowledge and helpful programs, which in turn can contribute to long-term behavioral changes and support public health in the long run.

6. Conclusion

In the end, exploring the different impacts of sports activities on individuals' physical and mental health confirm the greatest extent to which engagement in sports not only improves physical fitness but also promotes cognitive resilience and personal development. The transformative influence of sports on physical fitness is plainly evident through enhanced cardiovascular endurance, strength, flexibility, weight management, and even bone density. The psychological benefits of sports are undeniable as they contribute to reduced stress and anxiety levels, improved mood and emotional well-being, and increased self-esteem and confidence. Sports activities offer social benefits, fostering social connections and a sense of belonging to teams to local values and communities. In Algeria, relevant to the findings of the survey conducted between September 2023 and April 2024, more efforts should be made to address the current health-related challenges, mainly how to influence the public mindset about the utility of sports activities in realizing considerable achievements. Government entities, healthcare agencies, and non-profit associations are all concerned with ways to come together against the deterioration of health matters in Algeria.

As explained earlier, there are some effective ways to handle public health issues through sports activities and events. The integration of public awareness campaigns, collaborative partnerships, and educational programs can help to create a comprehensive framework for public health advocacy. This multidimensional approach not only informs and educates the public but also fosters a collaborative environment in which various stakeholders work together to improve health outcomes on a broader level. Yet, as any research attempt, this study has some limitations for it only provides some insights and recommendations for promoting individual well-being through sports in various settings based on the participants' answers. However, these studies are often conflicting. Hopefully, this study deepens our understanding of the interrelation between engagement in different

sports and the improvement of public health, leading to better physical and psychological outcomes. It also offers information for individuals seeking to optimize the cognitive and psychological advantages of engaging in sports.

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