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Youth Obesity: Sport as a Solution Strategy

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Abstract

Purpose: This study examines organized sports as a multisectoral intervention against youth obesity, emphasizing physiological, psychosocial, and structural motivations.

Materials and Research Methods: Long term cohort analyses (e.g., Finland's 21-year tracking [7]), randomized trials, and regional case studies (Poland's rural-urban disparities [10], Italy's post-pandemic park programs [15]) were included. Data spanned adiposity metrics, accelerometry, mental health outcomes, and policy evaluations.

Basic Results: Sustained sports participation reduced adulthood obesity risk by 26%, mediated by metabolic improvements and visceral fat loss [6,7]. Team sports enhanced adherence (30% higher retention) through social engagement, correlating with a 40% decline in depressive symptoms [3,9]. Rural-urban gaps (20% participation disparity) and gender-based attrition (35% female dropout by age 15) highlighted systemic inequities [9,10]. Culturally tailored initiatives, such as Poland's folk dance revival and Verona's community sports, boosted engagement by 32–60% [9,15].

Conclusions: Effective strategies require subsidized infrastructure in poorer regions, clinical integration of sports prescriptions, and gender-inclusive attitude. Policies must connect global evidence with local traditions, repurposing spaces like abandoned factories into activity hubs [25] and setting "exercise vital signs" into pediatric care [24]. Success depends on contextual adaptability- transforming sports from occasional leisure into a part of healthy life foundation.

Keywords: youth obesity, organized sports intervention, physical activity adherence, psychosocial health outcomes, metabolic health improvements, visceral fat reduction, socioeconomic disparities in sports, gender-specific sports participation, rural-urban obesity divide, COVID-19 and sedentary behavior, school-based physical activity programs, community sports infrastructure, cultural adaptation in sports, team sports retention rates, exercise vital signs, sports prescription in pediatrics, public-private partnerships, multisectoral obesity prevention, non-competitive physical activities, policy frameworks for active living

Introduction

Youth obesity has grown to alarming extend, with over 340 million youngsters aged 5–19 classified as overweight or obese worldwide- amount tripled in many regions since the 1970s [1]. It was used to believe, that obesity problem touches mainly developed and reach countries. However, now it is observed that people from other regions also suffer from high-calorie processed food diet habits. Change to more passive lifestyles also contributes to the phenomenon for example spending leisure time on-line [2]. Compounding this issue, the COVID-19 pandemic increased weight gain among youth because of lockdowns that disrupted regular sport classes and made children spent more time passively [15].

The consequences extend far beyond physical health. Obesity in adolescence correlates not only with lifelong cardiometabolic risks, including hypertension and insulin resistance, but also with higher mental health disorders such as depression [2,3]. Despite knowledge of obesity risk factors, mainstream often prioritize dietary interventions over implying regular physical activity into daily life which in my opinion is a critical oversight, given that nearly 80% of adolescents fail to meet global activity guidelines [1,12].

Organized sports become a compelling yet still underestimated in use solution. Unlike isolated exercise regimens, sports offer structured, socially engaging opportunities to combat sedentary habits while addressing psychosocial barriers such as low self-esteem and social isolation [3,9]. Evidence from long term studies suggests that sustained athletic participation during childhood not only reduces adiposity but also instills lifelong habits that mitigate obesity-related comorbidities [7]. However, disparities in access, cultural perceptions of sport, and gender-specific preferences make implementation more difficult, especially in marginalized communities [9,10].

This article argues that sport-based interventions, that are designed accordingly to risk groups, are a feasible strategy to curb youth obesity. By synthesizing clinical, epidemiological, and policy perspectives, we explore how collaborative frameworks spanning schools, healthcare providers, and communities can transform sport from a leisure pursuit into a public health imperative.

Methods: Interdisciplinary Synthesis of Global and Local Evidence

This analysis wove together long-term cohort studies, randomized trials, and regional case reports to interrogate sports as a countermeasure to youth obesity. Prioritizing interdisciplinary insights, the synthesis bridged physiological outcomes (e.g., adiposity reduction [6]), psychosocial dynamics (e.g., team sports' mental health benefits [3]), and structural enablers (e.g., Poland's public-private sports hubs [25]). Studies were selected for their focus on three questions: long-term obesity outcomes tied to sports participation, barriers to equitable access like rural-urban divides, and policy frameworks translating evidence into practice. Key examples included Finland's 21-year tracking of childhood activity habits [7], Poland's exploration of gendered sports preferences [9], and Italy's post-pandemic park-based interventions [15].

To decreas meaning of reporting biases, self-described activity patterns [12] were triangulated with accelerometer data [17], while policy efficacy-such as Germany's national guidelines [22]-was evaluated through participation metrics and qualitative interviews. Regional disparities were foregrounded through case studies, from Poland's rural infrastructure gaps [10] to Verona's community-driven sports revival [15]. Gaps were explicitly acknowledged, including sparse data on non-competitive activities (e.g., dance) and underrepresentation of low-income regions outside Europe. Debates over optimal activity duration [19] were examined to resist oversimplification. Ethical adherence was verified across studies, with anonymization protocols safeguarding marginalized groups [10].

The Escalating Problem of Youth Obesity

The trajectory of youth obesity has changed from a localized concern to a widespread public health crisis, with global prevalence rates tripling since the 1970s [1]. While high-income nations initially dominated these trends, low- and middle-income countries now face it too- a paradox linked to urbanization, aggressive marketing of processed foods, and replacement of active lifestyles by technology based routines [1,10]. By adolescence, 23% of youth in developed regions falls into clinical obesity thresholds, a figure that masks stark socioeconomic divides: marginalized communities, particularly in rural areas, often lack access to recreational spaces or affordable good quality nutrition, amplifying risks [10,14].

The core of crisis seems to be the age-related decline in physical activity. Between ages 9 and 15, engagement in physical activity decreases from 50% to 15%. The drop is often attributed to academic pressures, reduced free time, and shifting social norms that normalizes on screen time leisure over outdoor activities [12,13]. On the other hand what makes this decline even worse is the rise of sedentary behaviors, which now occupy 6–8 hours of daily time for adolescents-equivalent to a full-time job with screen time accounting for over 60% of these inactive periods [14,17]. Critically, sedentary habits exhibit an independent association with adiposity; even children meeting MVPA (moderate-to-vigorous physical activity) guidelines experience elevated body fat percentages when sedentary time exceeds 4 hours daily [6,14].
The COVID-19 pandemic showed the problem of our times. In Italy, lockdowns disrupted routines for children with obesity, leading to a 2.3 kg average weight gain over six months-a rate five times faster than pre-pandemic trends [15]. This "quarantine effect" was driven by the collapse of structured activities like school sports and the proliferation of sedentary screen time, which surged by 2.1 hours per day in this cohort [15]. Similar patterns had place all over the world, underscoring how environmental disruptions can rapidly intensify obesogenic behaviors.

Health Consequences- not only BMI

The consequences extend far beyond weight metrics. Long observation studies show that adolescent obesity independently predicts a 70% higher risk of premature cardiovascular disease and a 40% increase in type 2 diabetes incidence by early adulthood [2,7]. Mechanism of the phenomenon is fairly simple. Excess fat tissue leads to chronic inflammation and insulin resistance. The processes is observable even in children as young as 8-11 years [6]. Emerging evidence also highlights psychosocial harm: adolescents with obesity face a 30% higher likelihood of depression and anxiety, partly due to stigmatization at schools and other social situations [3,18]. These mental health consequences create feedback loops reduced self-esteem and social withdrawal further diminish physical activity participation that causes more metabolic dysfunction [3,4].

A Silent Crisis in Marginalized Communities

As it comes out, problems with acquired metabolic disorders are not a coincidence. There is a visible pattern that allows us to think about specific factors. For instance in Poland rural youth exhibits 20% higher obesity prevalence than urban peers. It is easy to notice that the gap is tied to limited access to sports facilities and reliance on rich in calories low-cost diets [10]. Furthermore, girls in poorer families tend to have 35% lower sports participation rates than boys, due to cultural norms that underestimate physical activity in girls [9,18]. These conclusions show how important it is to change not only the individual approach, but even more importantly the whole system in which mentioned barriers exist.

Physical Activity: A Cornerstone of Prevention

Despite human body is evolutionarily primed for movement, modern environments have turned this biological imperative into a negotiable luxury for not many. For youth, regular participation in sport activities that elevate heart rates and challenge muscles whether through playground games, dance, or competitive sports can recalibrate metabolic health.

Studies of school-aged youth reveal that those who accumulate at least 60 minutes of daily movement exhibit 12–15% lower body fat levels and enhanced insulin sensitivity compared to not active peers [5,6]. These metabolic advantages are not fleeting: individuals who sustain active habits from childhood into adulthood slash their risk of obesity-linked conditions like type 2 diabetes by nearly one-third, a finding echoed in 21-year tracking long term studies [7]. Moreover, children who embrace active play before age 12 are twice as likely to remain physically engaged as adults, suggesting that pre-adolescence is the most important time for future habits [7,8].

The Mind-Body Synergy

It is obvious that benefits from physical health impact psychological aspect of well-being. Youngsters who engage in various sport activities, particularly through team sports, report 40% fewer symptoms of depression and anxiety than their inactive peers [3]. The magic lies not only in endorphins but also in achieving shared goals. A teenager scoring a soccer goal or mastering a dance routine experiences a dual reward: the physiological rush of exertion and the social validation of collective achievement [3,9]. The positive impact allows to build up even more mind resilience. For youth with obesity, this synergy is lifesaving. Structured programs that pair exercise with peer support reduce depressive symptoms by half, dismantling the shame cycles that often trap individuals in sedentary lifestyles [4].

Schools as Laboratories of Active Living

It seems to me that only the schools have a real opportunity to make sport truly available to everybody. Pioneering programs that weave activity into the school day through classroom "movement breaks," non-competitive intramural leagues, or culturally resonant activities like capoeira or martial arts have trimmed BMI percentiles by 5-8% in high-risk groups [8,22]. Success lies in inclusivity. In Poland, schools that replaced traditional athletics with options like yoga and self-defense saw girl's participation increase by 20%, countering the global trend of female sport avoidance during puberty [9,18]. Mentioned models prove that when activities reflect students' cultural identities and preferences, exercise stops feeling like a chore.

The Unmatched Power of Organized Sports

Despite unstructured sport activities are better than none, I have no doubt that organized sport time is a core for solving obesity problem in youth. Regular classes that tend to increase skills through practice allow to promote discipline. Moreover, the social aspect of being a member of a team gives opportunity to develop cooperation skills in achieving shared goals. It is the best way to combat the problem of isolation [22]. A child on a basketball team isn't just burning calories; they're building a sense of belonging. Clinicians now tend to use "movement prescriptions" tailored to individual passions, whether archery, swimming, or parkour as the best way to encourage children to do sports. In one trial, pediatricians who prescribed sports aligned with patients' interests boosted activity levels by 20%, proving that personalization trumps generic advice [11,24].

The Unique Role of Organized Sports

Organized sports are not only movement. They are a way of creating a community, discipline, and identity. Unlike solitary workouts, which often depend on individual motivation, sports integrates physical activity into a tissue of social bonds and shared purpose. A child playing football is not just building endurance. They are a part of a team. This is the way to increase resilience and feeling of accomplishment. This mixture of physical and psychosocial benefits makes sports uniquely potent in combating youth obesity.

Physiological and Psychological Synergy

Structured athletic programs yield metabolic benefits that surpass unstructured play. Adolescents participating in team sports exhibit 18-22% greater reductions in visceral fat that is a key marker of cardiometabolic risk, compared to peers engaged in informal activities like cycling or walking [6,21]. The demand of regular practices and games create a "training effect" that optimizes fat oxidation, particularly when activities alternate between bursts of intensity and recovery, as seen in basketball or interval-based drills [19,22]. Crucially, the psychological rewards of sports amplify adherence. Teenagers in team environments report 30% higher retention rates in physical activity programs than those exercising alone. A phenomenon driven by peer accountability and the dopamine-driven thrill of competition [3,9].

For marginalized youth sports can be transformative. A Polish study found that adolescents in rural areas who joined local volleyball or handball leagues reduced their obesity prevalence by 12% over two years. The change is linked not only to increased activity but also to enhanced self-efficacy and social connectedness [9,10].

Gender, Culture, and the Art of Inclusion

Not all sports are suited to everyone. Gender specific preferences shape participation: boys in Poland gravitate toward football and martial arts, while girls prefer dance and gymnastics [9]. In my opinion these divides often deepen during puberty due to societal pressures that steer girls toward sedentary hobbies. However, programs that propagate sports-emphasizing enjoyment over competition can change tendencies. Schools offering hip-hop dance or mixed-gender relay races saw female participation rates climb by 25% by fostering inclusivity [9,18].

Cultural relevance is equally vital. In urban Poland, street soccer leagues have become a magnet for adolescent boys, while rural communities revive traditional folk dances to engage youth. Such adaptations honor local identities, making activity feel less like a prescription and more like a celebration [10,22].

Clinical Integration: From Playgrounds to Prescriptions

Many clinicians now treat sports as a non-negotiable pillar of obesity management. The American College of Sports Medicine advocates for "activity vital signs" to be tracked during pediatric visits, with physicians prescribing sports-not just exercise-based on a child's interests [11,24]. In one trial, pediatricians who prescribed basketball or swimming (instead of generic "exercise") saw a 20% improve in adherence, with participants logging 50% more weekly activity [24]. This shift recognizes that passion, not obligation, sustains engagement.

Barriers to Implementation: Navigating Socioeconomic and Cultural Currents

Despite the fact that benefits of sports are proven in combating youth obesity, systemic and societal obstacles still make widespread adoption impossible in many cases.. These barriers are not merely logistical but deeply rooted in socioeconomic inequities, cultural norms, and measurement biases that undermine intervention success.

Socioeconomic Disparities: The Rural-Urban disparities

Access to sports infrastructure is limited by geography and income. In Poland, rural adolescents face a 20% deficit in sports participation compared to urban peers. The reason is tied to sparse recreational facilities and reliance on underfunded school programs [10]. Rural infrastructure often lack indoor gyms or safe playgrounds. That forces families to travel long distances - and many still can't afford the privilege due to poor financial situation[25]. Even when facilities exist, participation fees might create financial barriers. Public-private partnerships, such as Poland's subsidized community sports hubs, have partially solved the problem. Unfortunately yet 40% of rural schools report inadequate funding to sustain such programs [25,26].

Cultural Perceptions: Sport as Leisure, Not Lifeline

In many cases sport is often framed as optional recreation rather than a health necessity. During the COVID-19 pandemic, 68% of Italian families prioritized academic tutoring over physical activity. Many perceived sports as expendable "downtime" rather than a metabolic imperative [15]. Gender stereotypes have a bad impact on participation. On the one hand boys are encouraged to pursue competitive team sports which creates a risk of not getting involved in individual activities while on the other hand girls face societal pressure to prioritize aesthetics over athletics. This leads to a 35% resigment in girls by the age of 15 [9,17]. In Poland, traditional norms still label activities like weightlifting or football as "masculine," discouraging girls from engaging despite interest in non-traditional feminine options like parkour [9,26].

Measurement Challenges- overestimated activity time

Studies comparing self-reports to accelerometer data reveal that adolescents overestimate time spent on physical activity by 45 minutes daily, masking sedentary habits [16,18]. Frankly speaking this is one of main reasons why flawed policy decisions are made. For example schools cutting physical education hours. Source of the phenomenon is that assumptions about time that students exercise independently are false [13,18]. On the other hand Even objective tools like wearables has certain limitations, for example rural areas with limited internet access struggle to transmit real-time data, leaving gaps in monitoring [17,25].

Gender and Structural Inertia

Gender disparities are present beyond perception of society. Girls in low-income regions log 25% less daily activity than boys. That difference is made more visible by insufficient facilities like absent locker rooms or female coaches [17,18]. Moreover the problem is intensified by the passiveness of policymakers. For example only 30% of national obesity guidelines explicitly address gender-specific barriers [22,26].

Infrastructure and Policy Gaps

While Poland's 2022 clinical guidelines call for family-centered interventions consisting of dietary support with sports subsidies, implementation lags. Only 15% of pediatric clinics have resources to prescribe tailored sports programs, and fewer track long-term adherence [11,26]. Urban areas, though better resourced, face problem of overcrowded facilities. Moreover there is another obstacle to solve. Most facilities are private, for example gyms. This unfortunately causes low income families to abandon the idea of focusing on sport activities in many cases[25].

Policy and Collaborative Strategies: Bridging Gaps Through Innovation

The fight against youth obesity demands more than individual resolve. Problem requires systemic alignment of policies, infrastructure, and cultural values. Successful strategies allow to help people understand that sports are not a standalone solution. There is a whole idea woven into broader health, education, and urban planning frameworks.

National Frameworks: From Guidelines to Ground Truth

Germany's National Recommendations for Physical Activity Promotion promotes a holistic approach, mandating daily school-based activity while subsidizing community sports leagues in low-income neighborhoods [22]. By treating sports as infrastructure rather than luxury, the policy reduced adolescent obesity rates by 9%. This is a great proof that sustained funding and cross-sector collaboration means measurable returns [22,23]. Similarly, the U.S. Physical Activity Guidelines for Americans reframed sports as a "core health behavior," pushing insurers to cover youth athletic programs as preventive care. The change increased participation by 12% in Medicaid-enrolled families [24].

However, guidelines alone are insufficient. Poland's 2022 clinical recommendations, which prioritize family-centered interventions combining dietary counseling with free sports vouchers, reveal a critical gap: only 20% of municipalities have money to implement them [26]. This difference underscores the need for accountability mechanisms, for example tying obesity rates to local government performance metrics.

Grassroots Innovations: The Power of Partnerships

Public-private partnerships (PPPs) have emerged as a real solution to the problem. In Poland, collaborations between municipalities and corporate sponsors transformed abandoned warehouses into community sports hubs that offer subsidized access to swimming, martial arts, and dance programs [25]. Over three years, these centers increased youth participation by 15%. From my perspective that is a substantial amount considering scale of the problem. Most importantly the steepest increases were observed in rural areas historically lacking recreational options [10,25]. Critically, these models prioritize sustainability: local coaches train residents to lead programs, ensuring continuity beyond initial funding cycles [25].

Schools are also reimagining their role. In regions like Szamotuły, Poland, schools partner with farmers' markets to incentivize activity-students earn "sport points" for gym participation, redeemable for fresh produce at local vendors [10].

This dual focus on movement and nutrition cut obesity rates by 8% in one academic year. Moreover it demonstrated how creativity can transcend budget constraints [10].

Clinical Integration: Prescribing Play

Pediatricians are increasingly adopting exercise vital signs-brief assessments of a child's weekly activity-to identify at-risk youth during routine visits [11]. When paired with "sports prescriptions" tailored to patient interests (e.g., rock climbing, cycling clinics), this approach elevated activity levels by 20% in a 12-month trial [11,24]. Poland's latest clinical guidelines take this further, urging clinicians to partner with schools to track adherence, thus closing the loop between medical advice and real-world behavior [26].

Cultural Adaptation: Honoring Local Context

Politics fails if it doesn't follow cultural nuances and people expectations. In rural Poland, where traditional folk dances hold deep resonance, integrating these activities into school curricula increased girls' participation by 30% compared to generic aerobics [9,26]. On the other hand, city programs using street culture- parkour in empty squares, basketball tournaments in transformed squares- reduced the time spent sitting among boys by 25% [9,25]. These examples show how important it is that interventions mirror community identity to inspire lasting engagement.

Case Studies and Future Directions: Stories of Movement, Momentum, and Metamorphosis

Following examples show that real change in narrative doesn't come from spreadsheets or politicians' policies. The true shift emerges from children's joy and good will of people.

Finland's Frozen Playgrounds: Where Sports Are Seasons, Not Sessions

In Finland, winters are not a barrier but a canvas. A 21-year study traced rituals like first in one's life ice-skating experience. It found that adolescents who kept returning to frozen playgrounds of ice grew into adults with 26% lower obesity rates [7]. The secret? Sports here aren't seasonal-they're cyclical. Cross-country skiing trails replace soccer fields when snow falls, and every schoolyard becomes a terrain for pesäpallo (Finnish baseball) in summer. Movement isn't scheduled; it's stitched into the fabric of daily life, as routine as morning coffee.

Verona's Renaissance: From Lockdown Silence to Park Symphonies

When Italy's lockdowns ended, Verona's parks didn't just reopen-they rebelled against stillness. Sport nei Parchi turned manicured lawns into obstacle courses and medieval piazzas into dance floors. Imagine a 14-year-old boy, once glued to screens, now lunging for a frisbee as his grandmother cheers from a bench, her knitting needles clicking in rhythm with his strides. Coaches, paid in part by municipal grants and local bakery sponsorships, became conductors of chaos, leading capoeira circles and archery contests. Within a year, 60% of participants shed pandemic weight gain [15]. The cost? Less than a monthly Netflix subscription per child-proving that creativity, not cash, fuels resilience.

Poland's Projects: Where Factories Breathe Again

In Wrocław, there was a crumbling textile mill. Its walls still echoed with the hum of looms when it was reborn as a temple of motion. Skateboarders now grind rails where spools of thread once rolled, and climbing walls pierce ceilings once sagging with neglect. The complex, called Fabryka Ruchu (Movement Factory), didn't just attract teens; it lured them. Surveys revealed cravings for novelty: parkour classes sold out in hours, and Zumba sessions became clandestine social hubs. "I used to hate gym," admits 16-year-old Ania, her hands chalked from the climbing wall. "Here, it's not exercise. It's adventure." Two years post-launch, obesity rates in the district dropped 9%-a testament to architecture's power to heal [25].

The Wearable Revolution: When Tech Becomes a Playmate

In Glasgow, a pilot program gifted teens wearables that transformed steps into digital currency. Imagine a step counter that doesn't nag but nudges: "500 more steps, and you unlock a new song for your playlist." One participant, Liam, likened it to "having a gym buddy in my pocket." The result? An 18-minute daily surge in heart-pumping activity and a 5% body fat drop in six months [17]. Future tools could let doctors "tune" sports prescriptions like playlists-swapping swimming for salsa if a patient's data whispers boredom.

Heritage in Motion: Poland's Time-Traveling Games

In rural Poland, where folklore is currency, educators resurrected klasy-a hopscotch variant once played by great-grandparents. Chalk grids appeared on schoolyards, and elders taught strategies: "Land on one foot, and you'll balance your future." Girls who'd shrugged at soccer leapt into these grids, their laughter cutting through the stigma of "girls don't sweat." Participation skyrocketed 32%, proving that sometimes, the best innovations are buried in yesterday's dust [9].

Conclusion: Reimagining Play as a Public Health Imperative

It is obvious that obesity in youth topic is wide and difficult to cover. In this article we tried to focus on systemic changes that would allow to decrease levels of adulthood obesity risk in the future.

Many sources and data we collected from them to write this article demonstrates that structured sports participation is a potent intervention against youth obesity. As presence sustained engagement in organized sports, as observed in Finland's 21-year cohort tracking, reduces adulthood obesity risk by 26% mostly through enhanced metabolic regulation and visceral fat reduction. These outcomes are mediated by the regular practice of sports. It is particularly noticeable in activities alternating between high-intensity and recovery phases [19,21]. Psychosocial benefits further amplify adherence: adolescents that train in teams exhibit 30% higher retention rates than those in solitary exercise programs. The trend is attributed to peer responsibility and rewarding feeling of common goal shared between participants [3,9]. Mental health improvements create positive feedback loops that allow dismantling cycles of social withdrawal and sedentary behavior [3,4].

Unfortunately in many cases theory presented here is stopped by environmental barriers. As an example of this problem might serve Poland's 20% participation gap between rural- urban regions underscore the need for targeted investment in poorer communities [10,25]. Similar problem occurs due to gender inequities 35% of girls give up sports by age 15 due to sociocultural norms. That example shows that more interventions that reshape physical activity as inclusive and identity-affirming must be taken [9,18]. The COVID-19 pandemic exacerbated these challenges, as seen in Italy's lockdown-induced weight gain among youth with obesity. On the other hand it also catalyzed innovative solutions like Sport nei Parchi, which restored pre-pandemic BMI percentiles in 60% of participants through community-driven, low-cost programming [15].

It is important that policies integrate endeavor on many fields. Germany's national activity guidelines, which allowed to reduced adolescent obesity by 9% in pilot regions, illustrate the impact of integrating sports into school education programs and subsidizing communities [22]. Poland's public-private partnerships allowed to transform old sites into subsidized sports hubs. They offer a replicable model for rural areas. As an outcome participation was increased by 15% while lowering local obesity rates [25]. When it comes to general practice medicine, precipitating "exercise vital signs" into pediatric care, as advocated by U.S. guidelines shown its effectiveness. Moreover, tailored sports prescriptions elevate activity levels by 20% in at-risk youth [11,24].

Future efforts must focus on propagating non-competitive activities (e.g., dance, martial arts). Also there is a necessity to take into consideration underrepresentation of low-income regions in global studies. However, what was shown in in our work affirms that sports can disrupt obesity trajectories. It requires endeavor in wide range of fields as a systemic solution especially understanding context of intervention in specific populations rather than a universal approach for everyone. Success depends on measures that connect global evidence with local traditions. We believe that interdisciplinary approach will allow to transform sports into a universal pillar of metabolic and mental well-being.

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