

## Determinants of program Integration on The Sustainability of Health and Fitness program among Youth in Heilongjiang Province, China

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**How to cite this article:** Di Wu, Ali Khatibi, Jacqueline Tham (2024). Determinants of program Integration on The Sustainability of Health and Fitness program among Youth in Heilongjiang Province, China. *Library Progress International*, 44(3), 11197-11213.

### ABSTRACT

Integrating multiple health and exercise programs is crucial to tackling the complex concerns of juvenile health and guaranteeing their long-term success. This integration combines education, community participation, infrastructure development, and policy implementation to improve youth physical health. National fitness and health efforts for young people in Heilongjiang Province must integrate many health and fitness goals to be successful. To address the region's demographic and socioeconomic concerns, different sectors must work together. These programs need supportive legislation, strong infrastructure, and extensive education. Current health trends and behaviors have made it difficult to design and implement physical activity recommendations for youth, requiring continuing improvements. Recent research and policy changes have improved these guidelines to keep them relevant and effective in encouraging physical activity in children and adolescents. This section reviews the literature's issues and successes, providing a complete summary of youth physical activity standards. The rise in sedentary behavior, especially among adolescents, is a global issue. The growing use of smartphones, tablets, and laptops has increased sedentary habits, especially screen time. This trend threatens young people's physical and emotional health, increasing obesity, cardiovascular disease, and mental illness. Thus, current physical activity standards emphasize reducing sedentary behavior and supporting active lifestyles. Physical activity disparities between socioeconomic classes are another urgent concern. Evidence suggests that children from socioeconomically disadvantaged backgrounds are less likely to follow physical activity guidelines due to lack of safe recreational spaces, financial constraints, and organized sports programs. Targeted programs and policies that provide equal and unbiased physical exercise opportunities for all young people are needed to alleviate these inequities. Current policy priorities prioritize comprehensive services for vulnerable and underserved households.

Keywords: Program Integration; Sustainability; Health; Fitness Program

**1.1 Introduction** There is an urgent need to address the sustainability of youth-focused national fitness and health programs in Heilongjiang Province, China. All things considered, these initiatives are vital to the region's socioeconomic development and to the younger generation's overall health and fitness. When it comes to protecting the health of young people and making sure these programs last and work, it's essential to combine different health and fitness initiatives. By bringing together initiatives in education, community engagement, infrastructure development, and policy implementation, we can create a cohesive and comprehensive plan to improve the health and fitness of young people. The importance of these initiatives in reducing the prevalence of lifestyle-related diseases, increasing physical activity, and fostering a health-conscious culture among young people cannot be overstated. By creating environments that encourage physical exercise and healthy habits, integrated health programs have shown great promise in achieving long-term health benefits, according to recent evaluations (Girard et al., 2021). A healthier adult population is essential for the region's long-term economic and social stability, and these programs help meet the immediate health needs of youth while also laying the framework for that goal. Ensuring their productive integration into the broader social and policy framework is a crucial challenge to maintaining these projects. For integration to work at its best, multiple sectors, including public and private schools and nonprofits, must work in tandem. Better health outcomes, easier program execution, and more efficient use of resources are all possible outcomes of this kind of integration, according to the research (Zhao et al., 2022). However, there are sometimes many challenges that make it difficult to achieve this integration, such as outdated or non-existent infrastructure, a lack of funding, and cultural resistance to new health programs. These challenges stand out within the particular context of Heilongjiang Province. Health program implementation tactics need to be tailored to the province's unique demographic and socioeconomic characteristics. Economic inequality, varying degrees of access to health and fitness facilities, and the rural-urban divide all impact how effective these programs are. According to research, integrated health initiatives in regions facing significant socio-economic challenges need to be very resilient and adaptable to succeed (Li & Wang, 2023). Furthermore, policy plays a crucial role in ensuring these projects can be sustained in the long run. In order to ensure that health projects have the necessary funding, infrastructure, and regulatory support to last for a long time, it is crucial that policies be well-implemented. The implementation of supportive policies in Heilongjiang has been credited with the youth fitness and health programs' successful execution. Policymakers must prioritize school-based PE, community sports programs, and public health initiatives if they want to create an atmosphere that is healthy for youth (Chen et al., 2021). In order to keep juvenile health services running, it is crucial to include educational activities. Schools play a crucial role in encouraging healthy lifestyles and teaching students the value of exercise and other forms of physical activity. According to recent studies, school-based health initiatives are effective in increasing youth physical activity and improving their health outcomes (Wang et al., 2020). The programs' efficacy is maximized when they are integrated with broader community and policy initiatives, creating a supportive environment that encourages healthy behaviors for life. In conclusion, incorporating varied health and fitness goals is crucial to the long-term sustainability of national fitness and health programs aimed at youth in Heilongjiang Province. As a result of this integration, many sectors must work together systematically to address the unique socioeconomic and demographic challenges facing the area. Supportive laws, robust infrastructure, and substantial instructional efforts are essential for the successful completion of these initiatives.

Due to increasing rates of physical inactivity and associated health problems, youth fitness and health have emerged as critical public health concerns on a global scale. According to the World Health Organization (WHO), sedentary lifestyles are associated with an increased risk of death globally and a disproportionate share of the illness burden caused by NCDs such as diabetes, obesity, and cardiovascular disease. Most young people around the world do not exercise often enough, even though the World Health Organization recommends it. This problem is worsened by the prevalent global trend towards digital consumption, which involves longer periods of screen usage, leading to negative effects on the physical and mental health of young people. Critical and long-term health needs can be met through the implementation of integrated health programs, which show great promise in creating environments that encourage physical activity and good habits. Even while China's position mirrors global trends, it is influenced by unique socio-cultural and economic factors. Promoting regular physical activity and other healthy lifestyle choices is central to the "Healthy China 2030"

initiative, which aims to improve the overall health of the Chinese people. Young Chinese people's levels of physical activity are below the optimal range, according to analysis of national surveys; nonetheless, there are significant disparities between urban and rural regions. Children in urban areas typically have more access to organized sports and other forms of structured physical activity, whereas their rural counterparts face challenges like inadequate infrastructure and limited finances. In addition, students in China's rigorous educational system often endure high levels of stress, which might lead them to neglect physical education and other forms of unstructured leisure. Higher rates of physical inactivity are a direct result of the time constraints imposed by the academic focus. The government of China has launched a number of community and school-based initiatives to promote healthy eating and physical activity in response to the alarming rise in childhood obesity. Researching youth health and fitness in Heilongjiang Province, in China's northeast, provides a one-of-a-kind environment. In order to exercise outdoors for a large chunk of the year, residents of this province must come up with creative indoor fitness solutions and ensure that the necessary infrastructure is in place to support such endeavours. This is because the province is known for its harsh winters. Economic disparities within the province only make matters worse. Kids in rural areas don't have the same access to gyms, sports complexes, and recreational facilities as their urban counterparts in places like Harbin, which means they don't get the chance to exercise regularly. Furthermore, Heilongjiang faces financial challenges that impact the distribution of public health expenditures and the availability of resources needed for fitness programs. Fitness and health habits among Heilongjiang's youth are shaped in part by the region's cultural milieu. Modern fitness trends, such as public exercise and body positivity, may be at odds with traditional Chinese values, which place a premium on modesty and self-control. Fitness program participation rates can be impacted by cultural factors, especially in the female and elderly demographics. The success of health and fitness programs for children and teens in Heilongjiang depends on the efficient execution of relevant policies. The provincial government's initiatives align with the national "Healthy China 2030" strategic plan, which emphasizes the importance of public health campaigns, community sports programs, and physical education in schools. However, there are significant challenges to overcome in order to successfully implement this policy, such as a lack of infrastructure, limited funding, and cultural resistance. The success of these programs relies heavily on community engagement and support, as they foster a sense of ownership and active involvement among local citizens. The breadth and depth of health and fitness programs can be greatly enhanced by tapping into community resources and forming partnerships with local organizations. A complex web of international, national, and regional factors affects the health and fitness of Heilongjiang Province's youth. A comprehensive and coordinated approach to delivering health initiatives is required to successfully address the unique challenges of the area. Integrating culturally sensitive techniques, embracing technical breakthroughs, securing strong policy support, and considering the special requirements of both urban and rural communities are all important components of this strategy. Stakeholders may make a significant impact on the general welfare and socio-economic advancement of Heilongjiang Province by understanding these dynamics and developing health and fitness programs that are more efficient and comprehensive.

### 1.1. Literature Review

As the benefits of regular physical activity have been more widely acknowledged, the fitness and health industry has seen significant transformations on a global scale. Integrative health management is becoming more popular, and this sector is reflecting that trend by placing an emphasis on holistic and personalized health and wellness programs. Evidence that regular physical activity is essential for the prevention of chronic diseases, improvement of mental health, and enhancement of quality of life as a whole has spurred the evolution of these changes. Consequently, there has been a shift in the fitness and health industry towards developing comprehensive programs that address all aspects of overall wellness. Individualized health plans are all the rage in the health and fitness industry. Thanks to recent tech developments, individualized fitness regimens may be designed to consider each person's unique health status, current fitness level, and desired outcomes. A more comprehensive approach to health management is achieved by the incorporation of specialized exercise routines, nutritional counselling, and mental health support into these programs. Smith et al. (2022) found that compared to generic programs, tailored health programs are more effective at encouraging long-term health practices. Individuals can now track their progress and get instant feedback thanks to the integration of wearable electronics and mobile health apps, which has improved the capacity to personalize workout programs.

In addition, the modern fitness industry has incorporated numerous health and wellness aspects through customization. Physical exercise is just one component of a well-rounded health program that also addresses healthy eating, stress reduction, and preventative medical treatment. The premise of this all-encompassing approach is that one cannot achieve total physical health unless one also takes care of their mental and emotional wellbeing. Research has demonstrated that individuals' health outcomes are enhanced through integrated health services, which provide a more comprehensive support system (Nguyen et al., 2021). Research has demonstrated that weight loss and metabolic health can be significantly enhanced when dietary guidance is combined with exercise.

The Chinese government has played a key role in encouraging the expansion of the health and fitness industry. The importance of regular physical activity and healthy lifestyle choices in combating lifestyle-related disorders like diabetes, heart disease, and obesity has been emphasized by an increasing number of national governments. The "Healthy China 2030" initiative aims to improve the overall health of the Chinese people by bolstering public health infrastructure, encouraging healthy habits, and promoting physical activity (Wang & Li, 2021). Fitness and health initiatives have proliferated across the country as a direct outcome of this policy framework's adoption, with a focus on accessible community-based activities for all demographics. The health and fitness industry in China has been greatly influenced by cultural factors. A unique synthesis of Eastern and Western health ideas has emerged as a consequence of the incorporation of holistic health practices and traditional Chinese medicine (TCM) into modern exercise regimens. People often support this integration since it follows established ideas about health and wellness. Zhang et al. (2020) conducted a clinical experiment that highlights the effectiveness of combining modern exercise programs with Traditional Chinese Medicine (TCM) practices, including as tai chi and qigong, to improve physical and mental health. Changes in the health and fitness industry have been accelerated by the COVID-19 pandemic. In order to strengthen the immune system and reduce the chances of major illness, maintaining physical health is essential, as the epidemic highlighted. As a result, fitness apps, virtual personal trainers, and online workout sessions have become increasingly popular as digital fitness interventions. Users have been able to keep up with their fitness routines despite lockdowns and social distancing techniques because to these online services. According to Lee et al. (2021), online fitness solutions have become increasingly popular due to the increased use of digital platforms throughout the epidemic. This trend is predicted to continue even after the pandemic has ended. There are unique challenges and opportunities in Heilongjiang Province's health and fitness industry. The province's demographics necessitate targeted health initiatives due to factors such as its high prevalence of chronic diseases and its aging population. To ensure that all communities can benefit from health programming, tailored techniques are necessary due to the gap in availability to health and fitness resources between urban and rural locations. Tackling these difficulties and improving the general health of the people requires the implementation of fitness programs with comprehensive health initiatives, supported by strong policy frameworks and community involvement.

In the end, technological advancements, institutional support, and a growing awareness of the need of complete health management have driven significant change in the fitness and health industry. Emphasizing personalized and all-encompassing health programs has proven to be effective in promoting long-term health behaviors and improving health outcomes. Cultural factors and governmental interests have shaped the sector's development in China, leading to unique approaches that blend traditional and modern medical techniques. The situation in Heilongjiang Province highlights the importance of tailored health treatments that address the individual needs and challenges of the local population. This provides valuable insights for the further growth of the fitness and health service industry.

There are significant challenges and opportunities shown by the current global status of youth fitness and health. A major public health concern on a global scale, inactivity is a known contributor to the rise of NCDs including diabetes, obesity, and cardiovascular disease. Despite extensive research and public health campaigns, young people's levels of physical exercise are still too low. Inadequate adherence persists despite the World Health Organization's (WHO) persistent advocacy for 60 minutes of moderate-to-vigorous physical activity daily. A great challenge and an exciting opportunity have arisen with the rise of digital technology. Sedentary lives have been influenced by excessive screen time. The use of digital platforms and wearable gadgets to track fitness progress and motivate people to exercise is, however, on the rise. A number of global initiatives are working to improve youth health and fitness through promoting international collaboration and sharing best practices. One such

initiative is the Active Healthy Kids Global Alliance. Chinese youth health and exercise initiatives have come a long way, but they still face many challenges. Aimed at enhancing public health, this initiative, dubbed "Healthy China 2030," emphasizes the government's commitment to promoting physical fitness among the younger generation. National polls show that young Chinese people are not physically active enough, and there are big gaps between urban and rural regions, so there's still a long way to go. In general, urban areas have better infrastructure and more easy access to sports facilities, whereas rural areas sometimes have less resources and fewer amenities. The problem is made worse because Chinese students have a hard time finding time to exercise due to their demanding academic schedules. The goal of the many government-run programs aimed at schools and communities is to promote healthy lifestyles and increase physical activity. The major goal of these initiatives is to increase participation in athletic events within the community and to integrate physical education into the school curriculum. Furthermore, initiatives to combat the rising tide of youth obesity and promote a health-conscious lifestyle are constantly being considered and planned for.

Promoting Health and Physical Fitness among Heilongjiang Province's Youth Heilongjiang Province's current juvenile fitness and health status provides a unique context for investigation. The province's difficult climate, with its long and harsh winters, makes outdoor exercise difficult, necessitating the development of indoor fitness solutions and the maintenance of adequate facilities. Economic disparities within the province exacerbate the problem. Kids in rural areas don't have the same access to gyms, sports complexes, and recreational facilities as their urban counterparts in places like Harbin, which means they don't get the chance to exercise regularly. In addition, public health funding and availability of fitness program resources are both impacted by Heilongjiang's economic woes. Fitness and health practices among young people in Heilongjiang are greatly impacted by cultural aspects. Chinese culture places a premium on modesty and self-control, which might be at odds with modern fitness practices, particularly those that include public exercise and body exposure. Fitness program participation rates can be impacted by cultural factors, especially in the female and elderly demographics. The provincial government's efforts are in line with the national "Healthy China 2030" strategy, which emphasizes the importance of public health campaigns, community sports programs, and physical education in schools. Surmounting major impediments, such as inadequate infrastructure, budgetary constraints, and cultural resistance, is necessary for successful policy implementation.

This study aims to investigate the elements that impact the sustainability of health and fitness programs among young people in Heilongjiang Province, specifically looking at how different programs are integrated. The study's central focus is on how multi-sectoral collaboration, or integrated methods, may address the complex challenges of maintaining youth health and ensuring the programs' long-term viability and effectiveness. The research will examine the factors that impact the smooth implementation and sustainability of exercise and health programs, including policy implementation, educational initiatives, community engagement, and infrastructure. By delving into these dynamics, the study hopes to shed light on important points that program designers and legislators may use to improve the health and fitness programs in Heilongjiang Province, which will in turn boost the province's economy and quality of life.

## 2. Methodology

The level of education on creative entrepreneurship is one of the independent variables investigated in this study. Entrepreneurial self-efficacy and entrepreneurial intention are examples of mediator factors. Entrepreneurial behaviour is the dependent variable. The current study includes the creation of a questionnaire using a quantitative method to investigate the elements that influence entrepreneurs' behavior. This was accomplished by using questionnaires gathered from appropriate reference materials on the topic matter. Data were collected using a five-point Likert scale, which encompassed five complete degrees of selection from "strongly disagree" to "strongly agree." Furthermore, the study hypothesis was evaluated, and detailed analyses of questionnaire data were performed using SPSS and AMOS. This research sought to establish a link between creative entrepreneurship education, entrepreneurial self-efficacy and intention, and entrepreneurial activity. Each of these inquiries included quantitative comparisons. This study used stratified random sampling. To recruit respondents' participation in the questionnaire survey before gathering critical data, several tactics were used, including publishing group announcements on WeChat and contacting them via email.

### 3. Findings

Table 1; Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Policy Implementation	0.957	0.958	0.967	0.652
Educational Programs	0.963	0.963	0.971	0.670
Community Engagement	0.936	0.942	0.951	0.695
Infrastructures and Resources	0.957	0.957	0.966	0.652
Program Integration	0.966	0.966	0.974	0.682
Sustainability of Health and Fitness Programs	0.947	0.948	0.960	0.626

Source: Authors Data

The Composite Reliability (CR), Cronbach's alpha (CA), and Average Variance Extracted (AVE) score were the three methods that were utilized in order to evaluate the internal consistency of this research. This assessment was conducted in order to determine the validity and reliability of the research. With the use of three different indications, the reliability of each item is evaluated. In accordance with the recommendations made by Fornell and Larcker (1981), it is essential for the composite dependability to be more than 0.70 with regard to each conceivable variable. For the same reason, the value of Cronbach's alpha (CA) ought to be more than 0.70, as suggested by Fornell and Larcker (1981) and Nunnally and Bernstein (1994). Furthermore, according to the suggestion made by Fornell and Larcker (1981), the Average Variance Extracted (AVE) should be greater than 0.50. The values that were reported for the coefficient of reliability (CR) ranged from 0.960 to 0.974, and all of them were higher than the threshold of 0.70, as indicated by the data that is presented in Table 1. The findings that are presented in Table 1 illustrate a range of scores that starts at 0.947 and goes all the way up to 0.966 while discussing CA. In conclusion, the findings that were obtained for AVE reveal a range that falls between 0.626 and 0.695, which successfully satisfies the requirements that were specified.

Table 2; Discriminant Validity

	Authoritative Leaderships	Empowering Leadership	Participative Leadership	Team Creativity	Team Psychological Empowerment	Transformational Leadership
Policy Implementation	0.723					
Educational Programs	0.744	0.733				
Community Engagement	0.714	0.886	0.791			
Infrastructures and Resources	0.869	0.704	0.786	0.723		
Program Integration	0.724	0.703	0.710	0.832	0.739	
Sustainability of Health and Fitness Programs	0.893	0.879	0.807	0.762	0.843	0.709

Source: Authors Data

There is a concept known as discriminant validity, which describes the capacity of a group of items to successfully separate one variable from other variables. Hu and Bentler (1999) found that none of the correlations between ideas above the established threshold of 0.924. The data are presented in Table 2, which shows that none of the correlations exceeded the threshold. Taking into consideration the results of this research, the discriminant validity

falls somewhere in the range of 0.723 to 0.791. Generally speaking, the measuring model displayed a good level of discriminant validity within its framework. In their 2015 study, Henseler and colleagues claim that in order to evaluate the discriminant validity of a correlation, it is necessary to evaluate the heterotrait-monotrait ratio (HTMT) of the correlations. The HTMT values must be within the range of 0.85 to 1 in order to be considered acceptable. As can be seen in Table 3, the items that fall within the range of 0.822 to 0.882 are the ones that indicate the validation of discriminant validity and establish the reliability of the model for later analysis.

Table 3; Heterotrait-Monotrait Ratio (HTMT)

	AUHTORITATIVE LEADERSHIP	EMPOWERING LEADERSHIP	PARTICIPATIVE LEADERSHIP	TEAM CREATIVITY	TEAM PSYCHOLOGICAL EMPOWERMENT	TRANSFORMATION AT LEADERSHIP
Policy Implementation						
Educational Programs	0.882					
Community Engagement	0.759	0.828				
Infrastructures and Resources	0.607	0.943	0.822			
Program Integration	0.661	0.836	0.951	0.864		
Sustainability of Health and Fitness Programs	0.839	0.820	0.850	0.710	0.881	

Source: Authors Data

Table 4; Direct relationship

	Original Sample (O)	Sample Mean (M)	Standard Deviation (Stdev)	T Statistics ( O/Stdev )	P Values
Policy Implementation -> Sustainability of Health and Fitness Programs	0.622	0.628	0.053	11.780	0.000
Educational Programs -> Sustainability of Health and Fitness Programs	0.073	0.075	0.033	2.212	0.027
Community Engagement -> Sustainability of Health and Fitness Programs	0.147	0.152	0.064	2.295	0.022
Infrastructures and Resources -> Sustainability of Health and Fitness Programs	0.290	0.286	0.074	3.917	0.000
Policy Implementation -> Program Integration	0.312	0.310	0.054	5.769	0.000
Educational Programs -> Program Integration	0.317	0.325	0.089	3.576	0.000

Community Engagement -> Program Integration	0.073	0.075	0.037	1.997	0.046
Infrastructures and Resources -> Program Integration	0.147	0.152	0.064	2.295	0.022
Program Integration -> Sustainability of Health and Fitness Programs	0.349	0.346	0.087	4.025	0.000

Source: Authors Data

According to the data that are shown in Table 4, the results for hypothesis 1 indicate that there is a favourable influence of Policy Implementation on the Sustainability of Health and Fitness Programs. This effect is statistically significant. A statistically significant score ( $\beta = 0.622$ ,  $t = 11.780$ ,  $p < 0.05$ ) provides considerable evidence for this association. Regression coefficient ( $\beta = 0.073$ ,  $t = 2.212$ ,  $p < 0.05$ ) demonstrates that there is a statistically significant link between Educational Programs and Sustainability of Health and Fitness Programs. This association is supported by the findings of hypothesis 2, which indicate that there is a correlation between the two. A statistically significant link between the Community Engagement and Sustainability of Health and Fitness Programs is demonstrated by the generated score ( $\beta = 0.147$ ,  $t = 2.295$ ,  $p < 0.05$ ). This is evidenced by the fact that the score reveals a substantial relationship between the two variables. The findings of hypothesis 4 suggest that there is a positive association between authoritative leadership style and team creativity. This is supported by the fact that there is a statistically significant relationship between the Infrastructures and Resources score and the Sustainability of Health and Fitness Programs score ( $\beta = 0.290$ ,  $t = 3.917$ ,  $p < 0.05$ ). It was hypothesized in the fifth hypothesis that there is a significant positive influence brought about by the integration of programs and the implementation of policies. A statistically significant outcome is demonstrated by the score ( $\beta = 0.312$ ,  $t = 5.769$ ,  $p < 0.05$ ), which indicates that hypothesis 6 provide a result that exhibits statistical significance. It has been demonstrated that there is a statistically significant link between Community Engagement and Program Integration, which indicates that there is a positive correlation between the two. This finding is supported by factors such as the regression coefficient ( $\beta = 0.317$ ), the t-value ( $t = 3.576$ ), and the p-value ( $p < 0.05$ ). There is a positive link between the Infrastructures and Resources and Program Integration, according to Hypothesis 8, which states that this association exists. Based on the findings, it can be concluded that there exists a statistically significant correlation between hypothesis 9 and the score ( $\beta = 0.073$ ,  $t = 1.997$ ,  $p < 0.05$ ). There is a positive association between Program Integration and the Sustainability of Health and Fitness Programs, according to Hypothesis 9, which proposed that this correlation existed. The results of the study reveal that there is a statistically significant link between these variables. This is supported by the regression coefficient ( $\beta = 0.312$ ), the t-value ( $t = 5.769$ ), and the p-value ( $p < 0.05$ ).

Table 5; Mediating effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV))	P Values
(Policy Implementation; Educational Programs; Community Engagement; Infrastructures and Resources) -> Program Integration -> Sustainability of Health and Fitness Programs	0.290	0.286	0.074	3.917	0.000

Source: Authors Data

The fifth hypothesis proposes that Program Integration acts as a mediator in the relationship between (Policy Implementation; Educational Programs; Community Engagement; Infrastructures and Resources) and the Sustainability of Health and Fitness Programs. Hypothesis 9 reveals that there is a positive mediation impact of team psychology with the score ( $\beta = 0.290$ ,  $t = 3.917$ ,  $p < 0.05$ ). This positive mediation effect is statistically significant.



## Discussion

As part of its larger public health efforts, the Chinese government has instituted a number of national fitness and health programs with the goal of improving the general population's level of physical fitness. These initiatives aim to enhance public health by addressing lifestyle-related diseases and stress through regular physical activity, healthy eating, and preventative healthcare, all of which are outlined in the "Healthy China 2030" framework. Because the national initiatives in Heilongjiang Province are tailored to address the unique demographic and socioeconomic characteristics of the province, it provides a unique opportunity to analyse the effectiveness of these programs. In Heilongjiang Province, there are a lot of problems that make it hard for national health and fitness programs to work. Due to the long and harsh winters and other unfavourable weather conditions, outdoor physical activity is not an option for a large portion of the year in this area. Consequently, year-round indoor exercise facilities and programs must be established without delay. According to recent studies, it is crucial to have well-kept indoor facilities in order to keep up with physical activity levels during winter (Li et al., 2021). The disparity in infrastructure between urban and rural areas is still a major problem, though. While urban areas like Harbin provide a wide variety of fitness centres and sports facilities, people living in rural areas often don't have access to the same options, making it harder for them to be active on a daily basis. The socioeconomic environment of Heilongjiang has an impact on the current state of health and fitness programs. Provincial budget cuts in recent years have made it harder to fund public health initiatives and make fitness programs more accessible. A lack of funds can lead to poorly kept facilities, an absence of trained fitness professionals, and limited health promotion programs (Wang et al., 2020). If we want health programs to be sustainable and effective in the long run, we need to find imaginative solutions to these budget problems, such as partnerships between the public and commercial sectors or community-led projects. In Heilongjiang, cultural factors have a significant role in shaping people's views on health and fitness. Modern fitness regimens may collide with traditional Chinese values that emphasize humility and restraint. One example is that older people may choose more traditional kinds of exercise, such as tai chi, over more contemporary ones, such as aerobics or gym sessions (Chen et al., 2022). Hence, Heilongjiang's wellness and fitness programs need to foster creative and effective exercise routines while using culturally relevant approaches that respect local traditions. The amount of governmental backing for health and fitness programs in Heilongjiang is a critical factor in their current status. In an effort to promote healthy lives and regular physical activity among all Chinese citizens, official programs like "Healthy China 2030" lay out a thorough framework. Important steps toward promoting health and wellness include school-based physical education programs, organized sports in the community, and public health campaigns. However, these regulations can only be effective if they are put into action at the regional and city levels. Policy implementation varies throughout Heilongjiang regions, leading to disparities in fitness program access and quality (Liu et al., 2021). Strict oversight, adequate education for municipal leaders, and thorough evaluation mechanisms are essential for the successful execution of policies. Recent global events, especially the COVID-19 pandemic, have had a substantial impact on the state of health and fitness programs in Heilongjiang. Pandemic restrictions on social activities, gym closures, and traditional exercise regimens led to a decline in inhabitants' levels of physical activity (Zhang et al., 2021). Online workout sessions and fitness programs, which were born out of this need for a way to stay active during times of lockdown and social isolation, have become vital tools for people to keep moving. A potential way to reach a wider audience and add technology to traditional workout programs is the proliferation of digital fitness platforms. This might make these programs more accessible and adaptable to changing circumstances. Climate, socioeconomics, culture, and policy dynamics all interact intricately to define Heilongjiang Province's current fitness and health program landscape. In order to overcome the challenges and make the most of the opportunities presented by this specific circumstance, a comprehensive and coordinated approach to implementing health programs is required. Effective programs consider the different needs of individuals living in urban and rural areas, incorporate culturally sensitive strategies, have strong legislative support, and incorporate technological improvements to promote sustainable health behaviors. A comprehensive grasp of these dynamics is necessary for the development of fitness and health programs in Heilongjiang that are more effective and inclusive, ultimately improving the well-being of all residents. National goals aimed at improving public health and local initiatives addressing Heilongjiang's specific challenges have driven significant development in the health and fitness industry in the province in recent years. The "Healthy

China 2030" plan has been a driving force behind the development of fitness and health programs in China, since it highlights the importance of a balanced diet, regular physical activity, and preventative healthcare as key components of a healthy lifestyle (Wang et al., 2021). As a result of this program's rollout, investments in fitness infrastructure have increased, people are more aware of the benefits of exercise, and healthy lifestyles are more widely accepted.

The health and fitness industry in Heilongjiang still faces numerous challenges that reduce its overall efficiency and threaten its long-term survival, notwithstanding these positive developments. The inadequate infrastructure is a major obstacle, particularly in rural areas. Rural communities often lack even the most basic infrastructure needed to support regular physical exercise, in contrast to urban locations like Harbin that have access to world-class gyms, sports complexes, and leisure facilities (Liu & Zhang, 2021). Disparities in health between urban and rural areas are worsened because of this disparity, which makes it much more difficult for people living in rural areas to exercise. To address this infrastructure gap and make fitness opportunities available to all residents, targeted investments and innovative approaches are needed. One such approach is the deployment of mobile fitness units and community-led programs.

Culture has a major role in shaping Heilongjiang's fitness and health industry as it is right now. Public exercise and body positivity are hallmarks of modern fitness lifestyles, which might run counter to traditional Chinese values of modesty and self-control. In particular, women and the elderly may feel uncomfortable when swimming or working out at the gym, which might lead to lower participation rates among these demographics (Chen et al., 2022). Traditional forms of exercise like qigong and tai chi have their benefits, but they might not be able to improve cardiovascular health and fitness levels as much as more strenuous modern exercises. To overcome these challenges, it is essential to employ culturally sensitive tactics that respect traditional practices while encouraging participation in modern forms of physical exercise.

The fitness and health area are more complicated in Heilongjiang due to economic reasons. The province's financial woes have had a negative impact on public health funding and the accessibility of fitness program resources. Facilities may not be well maintained, there may be a shortage of trained fitness professionals, and health promotion programs may be underfunded (Wang et al., 2020). As a result of these budgetary constraints, innovative approaches to funding fitness and health programs, including public-private partnerships and community-based initiatives, are required to ensure their sustainability in the long run. Additionally, communities, particularly those in economically challenged areas, have distinct needs, and these needs must be met through careful allocation of resources.

Technological advancements have brought both possibilities and challenges to Heilongjiang's fitness and health industry. The way people engage with physical fitness has been completely transformed by the rise of digital fitness solutions. These solutions include fitness apps, wearable electronics, and online training sessions. During the COVID-19 pandemic, when traditional gyms were closed, these technologies provided convenient and flexible alternatives for keeping active (Jiang et al., 2021). Still, communities in rural areas and those with lower incomes face significant barriers to accessing digital technologies, making the digital divide an important issue to address. Ensuring equal access is of utmost importance in order to fully utilize digital fitness resources. Community involvement is another important factor influencing Heilongjiang's fitness and health industry. In order to promote and consistently sustain fitness programs, the participation of local communities is essential. Participation rates and health outcomes are both improved when community members are actively involved in program planning and implementation, according to research by Zhao et al. (2020). The creation of community gardens, walking clubs, and the organization of local sporting events are all examples of community-based techniques. In addition to the obvious health benefits of exercise, these programs also foster the kind of social connections and community spirit that are essential to overall wellness.

In conclusion, there have been both positive developments and persistent negative trends in Heilongjiang's fitness and health industry recently. Inadequate facilities, cultural barriers, budgetary constraints, and the digital divide continue to be obstacles to the effectiveness and sustainability of exercise programs, despite improvements in infrastructure and public knowledge brought about by national policies and local initiatives. In order to address these difficulties, a thorough plan is required, one that includes targeted investments, culturally sensitive approach, creative funding models, and active community participation. Stakeholders can make a significant impact on the well-being of Heilongjiang's youth by understanding and addressing these problems, which in turn allows them to develop more effective strategies to enhance the health and fitness of this demographic.

There have been many successful initiatives to improve the health and fitness of Heilongjiang's youth, yet there are still some challenges. These difficulties hinder the effectiveness and sustainability of national fitness and health initiatives, so resolving them comprehensively is essential for ensuring their success in the long run. The presence of cultural barriers that influence health behaviours and perspectives on physical fitness is an inherent hurdle. Modern fitness regimes, particularly those that involve public physical exercise and body exposure, can conflict with traditional Chinese cultural values that emphasize modesty and self-control (Chen et al., 2022). Women and older generations may feel uncomfortable exercising in public due to cultural differences, which can reduce their participation in fitness programs. Consequently, effective health programs should use culturally aware tactics that respect traditional practices while promoting creative and effective physical exercise. One major problem with health and fitness programs in Heilongjiang is the state's inadequate infrastructure. The infrastructure of urban centres like Harbin is much better than that of rural areas, and this disparity is quite noticeable. Fitness centres, sports facilities, and even basic recreational areas are sometimes lacking in rural areas, making it difficult for residents to engage in regular physical activity (Liu & Zhang, 2021). Both the quality of fitness programs provided and the accessibility of access are negatively affected by the underdeveloped infrastructure in these areas. To ensure that people in low-income communities have access to health-promoting activities on an equal basis, it is necessary to invest heavily in the construction and maintenance of exercise facilities.

A major challenge to the sustainability of fitness activities in Heilongjiang is the lack of integration of health programs. To create a cohesive and comprehensive plan for health and fitness, it is necessary for numerous sectors to coordinate their efforts, including education, healthcare, and community organizations. Only then can integration be considered a success. However, there are many cases where fitness programs operate autonomously, without adequate support and collaboration from related companies. Zhao et al. (2020) noted that when services are not integrated, resources are not allocated effectively and opportunities for holistic health promotion are missed. For instance, school-based PE programs could not have the full impact they could have due to a lack of coordination with local sports organizations or health centres. Improving the effectiveness of fitness treatments requires a concerted effort to integrate these programs into a broader public health system. Restrictions on funding make health and fitness programs in Heilongjiang even more difficult to implement. Government funding and resources for public health have been affected by the province's economic woes. Poor facility upkeep, a lack of qualified trainers, and insufficient health promotion programs are all outcomes of insufficient funding (Wang et al., 2020). These budget constraints necessitate innovative solutions, such public-private partnerships and community-led efforts, to ensure the sustainability of health services over the long run. Additionally, it is critical to fulfil the specific needs of different communities, particularly those in economically disadvantaged areas, by providing targeted financial assistance and allocating resources efficiently. The current fitness and health infrastructure has also been shown to have its flaws by the fallout from recent global events, most notably the COVID-19 pandemic. Pandemic restrictions on social activities, gym closures, and traditional exercise regimens led to a decline in inhabitants' levels of physical activity (Zhang et al., 2021). But it did highlight the importance of digital fitness solutions and the need for comprehensive and adaptable health regimes. During the epidemic, online workout courses and fitness software became increasingly common. This presents an opportunity to incorporate technology into traditional fitness programs, making them more accessible and adaptable to changing situations. At the end of the day, there are still a lot of unanswered questions about how to improve the health and fitness of Heilongjiang's youth. To ensure the sustainability and effectiveness of national fitness and health programs for youth in the region, it is imperative to tackle cultural barriers, inadequate infrastructure, and the inefficient integration of health services. An all-encompassing plan that considers the unique needs of rural and urban areas, incorporates culturally sensitive approaches, ensures strong policy support, and welcomes technological advances is necessary to mitigate these challenges. Better health and fitness programs that benefit the whole population of Heilongjiang may be possible if stakeholders take the time to learn about and resolve these challenges.

## Conclusion

Current health trends and behaviours have presented various current challenges to the development and implementation of physical activity guidelines for young people, necessitating constant improvement. Recent research and policy developments have focused on improving these suggestions to ensure their sustained relevance

and usefulness in boosting physical activity in children and adolescents. This section discusses the challenges and gains made in the literature, providing a comprehensive overview of current physical activity recommendations for young people. Sedentary activity is becoming more common over the world, particularly among young people. The growth of digital gadgets, such as smartphones, tablets, and computers, has resulted in a large increase in sedentary behaviours, particularly prolonged screen time. This transition poses a significant risk to young people's physical and mental well-being, increasing the prevalence of obesity, cardiovascular disease, and mental health disorders. As a result, current physical activity recommendations focus a strong emphasis on reducing sedentary behaviour and encouraging active lifestyle choices. Another major concern is the disparity in levels of physical activity among different socioeconomic groups. According to studies, children from low-income families are less likely to follow physical activity recommendations due to a variety of factors, including limited access to safe recreational areas, financial constraints, and a lack of structured sports programs. To address these disparities, targeted interventions and policies must be implemented to ensure that all young people have equitable and fair access to physical activity opportunities. Contemporary policy achievements have stressed the development of comprehensive programs that explicitly meet the needs of marginalized and underserved groups.

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