

FITNESS TECHNOLOGY

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The author examines the trends in the development of fitness in the cities of Russia. Analyzes the factors behind the increased popularity of fitness and describes popular and new types of this direction.

Relevance. Sports are essential for every person. It is fitness areas that have become popular for the vast majority of Russians, as they have a wide range of choices depending on the preparedness, goals and physical form of the client.

Purpose, tasks. The purpose of the work is to review scientific publications on this topic. Get to know the factors behind the development of the fitness industry. Learn the fitness system directions and their meaning. Reveal the importance of fitness bracelets and applications for a successful healthy lifestyle.

Materials and research methods. The research materials were scientific sources placed in the scientific electronic library (<https://elibrary.ru>). Research methods: study of scientific literature, review of scientific publications.

Results and its discussion. Fitness is an affordable, interesting and effective method of maintaining a figure, health and emotional stability. All this causes the development of not only new directions, but also the widespread introduction of these programs into the daily life of Russian citizens. More than half of the people in Russia are engaged in this physical activity, which makes this industry continue to develop.

Conclusion. The desire to engage in fitness has different motives, from maintaining health to imitating your favorite idols. All of them have made a good contribution to maintenance of a healthy lifestyle by citizens. In turn, the popularity of this direction gave a huge impetus to the development of fitness. Practically useful properties of fitness have been identified even for athletes and professional players.

Keywords: *fitness, fitness trends, sports and fitness, fitness in Russia.*

Factors of development of the fitness industry in Russia

In the modern world, the fitness industry is gaining immense popularity, including in Russia, although for domestic citizens this type of physical culture is relatively new. Several factors have played a role in the development of the fitness industry.

1. More and more people are concerned about the desire to have an attractive appearance and have excellent physical health, which cannot be achieved without proper physical activity, a healthy lifestyle and a balanced diet.

2. Fitness centers providing fitness services are currently operating not only in large cities of Russia, but also in small towns. In 2017, the volume of paid physical culture and sports services in Russia amounted to 72,018.9 million rubles, and the number of consumers of fitness services exceeded 5.2 million people.

3. The Decree of the President of Russia dated 07.05.2018 No. 204 "On the national goals and strategic objectives of the development of the Russian Federation for the period up to 2024" notes that it is necessary to increase the proportion of citizens leading a healthy lifestyle, as well as to increase to 55 percent

the proportion of citizens who systematically engaged in physical culture and sports.

4. The fitness services market is still undersaturated (according to the latest data, only 3 % of the Russian population is engaged in fitness, while in developed countries this figure reaches 15 %), which creates an opportunity for new business projects.

5. For a significant part of the target audience, visiting a fitness club and purchasing an annual subscription is a demonstration of social status and belonging to a certain social group; even in times of crisis, this group of people is not ready to give up the services of fitness centers [18; 19; 20].

The current state of the fitness industry

Today, the Russian market of fitness services has sufficient growth potential. So, at present, the turnover of the Russian fitness industry is growing by about 20–30 % per year [17].

The fitness services market In Russia has a pronounced geographic diversification. There are four main areas: the capital region, where the market is most developed, St. Petersburg with a high level of development, million-plus cities with a young and relatively underdeveloped market, and other cities of Russia.

Cities with a large population are among the most promising for the development of the fitness industry. The market of million-plus cities (excluding Moscow and St. Petersburg) is estimated at the end of 2015 at 28.4 billion rubles, or 28 % of the total volume. This suggests that the regional market is still far from saturation and has significant development prospects [17].

A popular scenario for the development of the fitness industry in the regions is a high proportion of franchising. The share of franchised fitness clubs in the regions is about 25 %. The role of franchising can become decisive in the conditions of saturation of the capital markets and the need to develop regional markets. The advantages of franchising are obvious: a recognizable brand, the loyalty of landlords, the franchisor's assistance with the supply of equipment and staff training, automation of the management system, assistance in organizing a sales department, and even, in some cases, advertising support [14].

As for the highly competitive metropolitan markets, research has shown that even when highly saturated, they still have room for growth.

In the course of one of the studies, it was supposed to obtain information about which fitness services are the most attractive for fitness club visitors, what motives and interests encourage them to do fitness, what is the frequency and duration of these classes.

The survey was conducted in the fitness clubs of the city of Ryazan. The number of participants in the survey was 164 people, including 95 women and 69 men. The main age group of respondents was visitors aged 26–44.

Thus, the largest representation in the sample is occupied by business and service workers, as well as young students. Most of the survey participants are knowledge workers and belong to the category of the able-bodied population in dire need of motor activity.

The survey showed that work experience:

- 27.5 % of respondents are over 3 years old;
- 53.7 % without significant breaks are engaged from 1 to 3 years;
- 18.8 % of respondents have been studying for less than a year.

From this we can conclude that the respondents are satisfied with the classes and continue to visit fitness clubs regularly. At the same time, there is an influx of new customers to fitness clubs.

According to the survey (table), more than 73 % of respondents attend classes three times a week, that is, they follow the recommended optimal mode of physical activity [13].

The most significant motives are: “self-preservation of health”, “positive emotions” and “pleasure from movement”. The motive of “self-improvement” is called the most significant, this is due to the strength orientation of the exercises, focused on correcting the figure, getting rid of excess weight, strengthening muscles, and forming the desired volumes of body parts. The least significant motive is “communication” [7].

Motives	% of responses
Preservation of health	11,00
Self-improvement	13,00
Motor activity	6,00
Due	5,00
Assessment of others	5,00
Acquisition of practical skills	7,00
Communication	3,00
Dominance	3,00
Physical culture and sports interests	10,00
Rivalry	3,00
The pleasure of movement	11,00
Games and entertainment	15,00
Imitation	6,00
Habit	15,00
Positive emotions	25,00

Another study conducted by the Romir holding showed that: 81 % of Russians strive to be healthy. Every third inhabitant of Russia is ready to take vitamins, follow a diet and play sports to maintain a healthy lifestyle.

Among health products, respondents primarily name vitamins (68 %) and dietary supplements (33 %), as well as exercise equipment and sports equipment (32 %). Russians primarily associate massage (54 %) and fitness (37 %) with services for a healthy lifestyle [14].

According to statistics, in our country, of the total number of people involved in fitness, about 60 % are women and 40 % are men. One of the most popular types of group exercise is cardio. In the gym, the most popular type of service is personal training. The components of classical fitness are: aerobics, step aerobics, Pilates, cycling, dance aerobics and others [15].

Characteristics of the main areas of fitness

Pilates is a safe, non-impact exercise program that allows you to stretch and strengthen the major muscle groups in a logical sequence while also taking care of smaller, weaker muscles. This system meets the requirements of any organism.

Like any other physical activity, Pilates develops joint flexibility, ligament elasticity, strength, inter-muscular and intramuscular coordination, strength endurance and mental qualities.

The main difference between Pilates and all other types is the possibility of injuries and negative reactions reduced to almost zero.

All exercises are performed with special simulators. It can be an isotonic ring, fitball, rubber shock absorbers or a simulator.

The main goal of the practitioner is to learn how to balance on them, actively involving the stabilizing muscles in the work.

Dance aerobics strengthens muscles, especially the lower body, stimulates the cardiovascular system, improves coordination and posture, and burns excess weight. A great amount of load falls on large muscle groups of the lower body.

Typical for these types of aerobics is the use of various dance movements to the music corresponding to a particular style of dance. This type of aerobics includes: funk aerobics, city jam, hip-hop, latin aerobics, modern jazz, afro-jazz and others.

Trekking — group interval training on treadmills. The training effect is achieved by changing the angle of inclination and speed of the treadmill.

The lesson is ideal for students of any level of preparedness due to the special “Break point” test (determining your own maximum speed).

The popularity of this type of aerobics was won due to the simplicity of its implementation, because the main type of load here is interval running.

The training is suitable for both walkers and runners, as the program has been specially designed to train runners and walkers at the same time.

Cycle — developed by American cyclist Johnny Goldberg. From English “cycle” means “cycling”, that is, aerobics, simulating a bicycle race. Training is performed on special exercise bikes. Under dynamic music and the corresponding video sequence together with the instructor. Those, who is involved, are offered a quick walk over rough terrain, over mountains or up a sheer wall. The enormous load on the cardiovascular system and on the muscles of the legs allows you to develop endurance and adjust body weight. The number of calories burned for a half-hour session on a cycle is twice as much as on a treadmill.

Below are the combined fitness programs. They combine cardio and strength training

Pump aerobics — power aerobics with a mini-barbell weighing from 2 to 20 kilograms. Performed non-

stop for 45 minutes, to rhythmic music. Dance elements are excluded from it. Instead, various bench presses, inclines and squats have been added. The training effect of barbell aerobics is undoubtedly very high, but it is recommended only for physically fit people [11].

Functional training is a completely new invention of fitness trainers. With the help of functional training, the practitioner acquires the desired forms in a relatively short time, as it affects the work of the body as a whole, and not just its individual parts.

The result is the optimal functioning of all human systems and organs. The main principle of functional training is adaptation to loads that determine the appearance of functional strength, flexibility, stability, balance and coordination. This type of training is the ideal way to maximize athletic performance. It also has a significant fat burning effect. In each exercise, both small and large muscles are worked out, so one exercise goes for two — due to increased calorie burning.

TRX is a training system using functional loops, which are called TRX. In addition to strength, it develops coordination of movements and flexibility. This functional training program was created by the US Marines and developed by Fitness Anywhere. This is a revolutionary method of training through the use of loops.

The uniqueness of this technique is that with its help you can do hundreds of exercises that will not only be effective, but also safe. Also, with the help of loops, you can adjust the load on the muscles.

New trends in fitness

Gyrokinesis — treatment of the spine with sports. Gyrokinesis was invented by the Romanian dancer Jules Horvath in the 1970s. Having received a serious spinal injury during a performance, Jules Horvath refused medical intervention and preferred an unusual method of treatment — sports. He invented exercises that contribute to the rapid recovery of the spine and joints. Later, he combined these exercises into a system and called it gyrokinesis [16]. Later, a simulator, that creates additional resistance during training, was invented. It is called “Gyrotonic”. The principle of its operation is based on the movement of the body in all planes. Now gyrokinesis is actively used both in the fitness industry and in rehabilitation medicine to bring the body into shape after injuries, especially sports ones. Gyrokinesis is aimed primarily at training the joints. All movements are performed in a circle or in a spiral and give a soft and uniform load, which at the same time does not overwork the joints. Particular

attention is paid to the spine and, mainly, the thoracic region. Therefore, gyrokinesis is highly recommended for stooped people. These exercises help improve posture. If gyrokinesis in its purest form is a rather rare phenomenon for the Russian fitness industry, then Gyrotonic is quite common in fitness clubs.

Antigravity yoga

These yoga classes are performed on an incredibly durable anti-gravity silk hammock, which completely eliminates the load on the spine. This direction allows you to easily and effortlessly improve blood circulation in the spine, stretch it and at the same time relax. Inverted positions allow you to do this.

Hammock training with smooth traction improves intervertebral disc hydration [8; 9; 10].

Hot Yoga

This is a completely new direction for the Russian consumer, abroad it is a fashionable and popular yoga direction. Fundamentally, hot yoga differs from classical yoga in that the class takes place in a room where the air is heated to 40 degrees. At this temperature, the body of any person becomes more flexible and elastic, so the benefits of training increase many times over. Despite of that, sweating increases. That helps to clean the body of toxins that come out with sweat. Hot yoga consists of twenty-six asanas and two breathing exercises. The class lasts an hour and a half, and, unlike the classical types of yoga, there is no division of people by level. Everyone is in the same group and has the opportunity to monitor their progress, all the while comparing themselves with more advanced participants and with beginners. Those who find it hard at first work in their own, more gentle mode.

Jukari Fit to Fly

Jukari Fit to Fly is Reebok's fitness program for women. The performance was prepared by Johanna Fellner, one of the developers of the Jukari Fit to Fly training program. Jukari Fit to Fly is a fundamentally new direction of fitness, which is only now conquering the global fitness community. The basis was the training of aerial acrobats under the dome of the circus, in a greatly simplified form, of course. For this, special Fly Set equipment was developed, which is a rope with several loops, which is attached to the ceiling on a swivel joint, which allows it to rotate 360 degrees. Between any two loops located at different levels of the rope, a crossbar is fixed, on which all elements are performed. The length of the rope is adjustable according to your height.

If you fly in a wind tunnel for two to five minutes, then here — a whole hour, and even with great

health benefits. The only drawback of the Jukari Fit to Fly is its low prevalence in sports clubs. Today, halls equipped for Jukari can be found in Hong Kong, Mexico City, Madrid, London, Krakow, Munich, Seoul, Kuala Lumpur, Buenos Aires, Santiago, Montreal and Los Angeles. In Moscow, you can try Jukari Fit to Fly on yourself only in one chain of fitness clubs.

Bosu

“Bosu balance trainee” is a simulator whose name stands for “Both Sides Use”. Outwardly, it looks like a half ball, while the training uses both a soft hemisphere and a flat hard 95 reverse surface. When performing exercises on this simulator, not only the main muscle groups are actively included in the work, but also small stabilizer muscles responsible for maintaining balance. Bosu gives a uniform load on the muscles, while, unlike traditional fitness, it practically does not load the joints.

Stiletto

Stiletto is not yet in Russia, but it is already actively conquering European countries. Italian fitness instructors, and, later, American ones, realized that it was impossible to convince women to change high heels for comfortable and harmless sneakers. Women will still wear stilettos, no matter what the consequences. There was a way out: a new direction of fitness, designed specifically for women. Training takes place in the most inappropriate shoes for these purposes — high heels.

Stiletto is a special set of exercises that are performed in high heels and are designed to strengthen certain muscles, ligaments and joints of the legs in order to minimize the damage from daily wearing of heels. In addition, these exercises perfectly tighten the muscles of the legs, especially the hips and buttocks, strengthen the spine and improve posture, and also make the gait more graceful and seductive.

Power Stretch

In 1999, a new technique was developed in Italy, called Power Stretch, authored by Julio Papi. In 2001, it was presented at European fitness conventions, and received many admirers: it was named the best fitness program of the year and was awarded a gold award. And since 2003, Power Stretch has been taught at the prestigious Kenneth Cooper Institute in Dallas.

The Power Stretch program is remarkable in that it is based on three main components: stretching, stretching and strength, stretching and balance in combination with proper breathing. The main goal of this technique is to create a correct idea of what an effective set of exercises should be. Through simple, easy to remember

exercises, the maximum effect is achieved: flexibility improves, muscle strength increases and a sense of balance develops [14; 15].

Fitness tourism

Due to the huge popularity of a healthy and active lifestyle, fitness has smoothly moved from a daily routine to tourism and recreation services. It should be noted that fitness tours, so popular in the West and so little known in Russia, are a completely different approach to relaxation, in which the tourist receives not only pleasure, but also tangible benefits. It is a worthy alternative to a passive beach holiday, it takes place in the same natural conditions, but provides more opportunities for physical and emotional development. The result of the tour can be weight loss, health improvement, improvement of the general condition of the body, the activity of the respiratory and cardiovascular systems, the normalization of the emotional state, the formation of a positive life attitude.

A fitness tour is also suitable for those who wants to expand their social circle, because the group gathers like-minded people united by a common hobby.

In our country, both professional sports clubs and travel companies organize fitness tours. More often, to organize such trips, they unite, develop a tour program, taking into account all the details and subtleties. The travel company assumes the responsibility for organizing transfers, accommodation, meals, excursions in the selected country. The fitness club is responsible for organizing and conducting the training process on vacation. The instructor daily conducts two or three full-fledged workouts with his group, monitors the loads, gives recommendations on proper lifestyle and nutrition. He must possess not only modern fitness methods, but also knowledge of the psychology of communication and leisure activities. As a result of such cooperation, a high-quality tourism product is being developed. There are various directions of fitness tours [4].

Especially popular among Russian tourists is the aquafitness tour. This is a great opportunity to combine relaxation and health training in the sea, pool and beach. The participants of the tour, under the guidance of experienced trainers-teachers, daily engage in various areas of aqua fitness (aqua aerobics, hydro shaping, hydro prophylaxis). Characteristic is the use of a variety of physical exercises performed in an aerobic mode, to the music, in conditions of deep and shallow pools, in the sea. A variety of activities is achieved through the use of special aqua fitness equipment, the use of various programs and methodological techniques [6].

Another type of fitness tours should be noted — yoga tours. It is a very popular type of fitness tourism, as yoga is a powerful bridge to improved well-being, body flexibility, spiritual peace and a better quality of life. It is a process that contributes to achieving balance, uniting the body, feelings and thoughts. Yoga can be practiced anywhere: outdoors or in specially equipped rooms, on the ocean or high in the mountains, at sunrise or sunset. If we talk about specialized yoga tours, the traditional destinations for them are India, Nepal and Tibet.

A special kind of programs in these countries are teaching programs to study the practice and theory of yoga. The daily seven-hour program (five hours of practice and two hours of theory) immerses the practitioner in the full world of yoga and includes asanas, pranayama, bandhas, nauli, kriya, mudras, japa and meditation. The lecture material is completed with yoga philosophy, explanations of cleansing practices, theoretical material on pranayama and mudras. Classes are usually held in a light creative atmosphere under the personal guidance of the master. During the practice, the translation is carried out by the personal students of the master-yoga instructors in India and Russia, which guarantees accurate translation and, most importantly, conveying the correct meaning [12].

Dance tours are very popular. Many people want to learn how to dance or improve their dancing skills. The tour is usually organized to the country whose culture the dance is associated with. For example, flamenco classes usually take place in Spain, while latin classes usually take place in Cuba. At the same time, dance tours are in demand not only among the regulars of sports clubs who go in for dancing from year to year, but also among beginners [14].

A comprehensive SPA-fitness tour includes daily outdoor workouts, a thalassotherapy course, and lectures on nutrition. Since the preparation and physical activity of all participants of the fitness tour is different, anthropometric and functional testing is mandatory before classes, which shows the readiness of the body for stress. After that, each individually is calculated the intensity of training. During the trip, the instructor monitors the health status of each member of the group and, if necessary, can make adjustments to the proposed load, change the exercise option. A trip of this kind requires special psychological preparation. People going on such a tour should tune in to a certain training process in advance. After all, they go not only to relax, but also to work on themselves. At the same time, everyone pursues their own goals: someone wants to

lose weight, someone wants to improve their health or physical fitness, and for someone this is the beginning of a new life, inseparable from sports. As a rule, subject to compliance with the training regimen and recommendations on nutrition and drinking regimen, tangible results are achieved: weight loss, improved well-being, lifting of the skin and body, noticeable after the first week of rest. Thus, it can be argued that today everything related to sports, health, physical development and maintaining physical fitness is of great interest to people. Therefore, sports and health services, in particular international fitness tours, have become an integral part of modern tourism [5].

The method of physical training of basketball players 13–15 years old by fitness means

Fitness in this experiment proved to be excellent as a physical activity that comprehensively develops physical characteristics.

The experiment was carried out on the basis of the SC “Dynamo” in Krasnodar. The pedagogical formative experiment was carried out in order to determine the effectiveness of the chosen methodology of training sessions using fitness means for the development of general and special physical fitness of 13–15-year-old boys-basketball players.

Significant differences were revealed for all seven parameters of general physical fitness. The speed indicator “Running for 60 meters” has significantly improved by more than 1.2 s. A significant improvement in the result in the test “Long jump from a place” was 13 cm. Intensification of the increase in the result occurred in the indicators “Long jump from a run”. This is due to the effective use of polymetric exercises in all parts of the microcycle [1].

Significant changes in the results were also noted in the block of power tests. Strength endurance of the muscles of the upper limbs, core and back is the most important component for the successful game practice of basketball players. Endurance indicators improved by a minute, which is a significant achievement for boys of this age. Perhaps this is due to the use of the warm-up part in the form of step aerobics and Tabata. Also, a comparative analysis of indicators of special physical fitness and progress of technical skills among boys-basketball players aged 13-15 years of the experimental group was carried out. Reliability was determined for all seven studied indicators. By the end of the experiment, most of the points began to correspond to the age standards of the older group (TE 5th year). A significant improvement in the result occurred according to the standard “Jump height ac-

ording to Abalakov”, which is one of the most important indicators for assessing the playing abilities of boys of this age. The speed capabilities increased with the reliability of intragroup differences and began to correspond to the standard of the older group. A significant increase in the length of the distance occurred when determining the effectiveness of the standard “Shuttle run 40 s × 28 m”. This indicator reveals not only the level of speed abilities, but also determines the forcing of coordination abilities that play in terms of movement on the court. Efficiency according to the standard “Running for 600 meters” by the end of the training began to correspond to the older age group. Significant positive changes also occurred in the evaluation of all technical skills at the end of the experiment [2].

When analyzing the results of special physical fitness and technical skills, a significant advantage of the experimental group was revealed in five tests out of seven. A significant advantage was found in the basketball players of the experimental group on the test of the important indicator “Jump height according to Abalakov.” Special speed abilities were significantly higher among the basketball players of the experimental group. However, it should be noted that the indicator of the control group corresponded to the age standard. When evaluating specific coordination abilities, the reliability between the formed groups was also revealed. The best indicator in the test “Shuttle run 40 s × 28 m” was determined in the experimental group. Perhaps this is due to the use of Tabata and step aerobics programs in the training process of the experimental group. Evaluation of special motor skills revealed significant differences in the standard, which indicates more developed core muscles in boys that were involved in the experimental method. Specific dexterity in the norm “Passing the ball” was also higher in the experimental group [3].

The role of fitness bracelets for visitors to fitness clubs

Due to the jump in popularity of fitness classes, the interest of citizens in electronic technology has also increased in direct proportion, helping to track such characteristics as the duration and intensity of physical activity, total physical activity, the number of steps and the length of the distance traveled, the number of calories burned, and more.

There are many good reasons that prove that the use of mobile applications and fitness bracelets in the health and fitness industry can be useful for solving its problems.

1. Enable interactive learning by transferring the basic knowledge of various training programs. Storage of methodological programs in electronic form.

2. They are used as automation of control, correction of the results of physical activity.

3. They allow to optimize the processes of testing the physical and mental state of the student.

4. They carry out operational collection and processing of information about private motor activity, including visualization of the current state and data dynamics.

One such study found that more than half of exercisers (58 %) use a fitness app. Also, 22 % use apps only occasionally, while 20 % don't use them at all. But only 17 % of respondents achieved significant results using a fitness app or fitness bracelet [8].

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Фитнес-технологии

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Авторы рассматривают тенденции развития фитнеса в городах России. Анализируют факторы возросшей популярности фитнеса и описывают популярные и новые виды этого направления.

Актуальность. Спорт необходим для каждого человека. Именно фитнес-направления стали популярными для подавляющего большинства россиян, так как имеют широкий диапазон выбора в зависимости от подготовленности, целей и физической формы клиента.

Цель, задачи. Цель работы — провести обзор научных публикаций по данной теме. Ознакомиться с факторами развития фитнес-индустрии. Изучить систему фитнес-направлений и их значение. Выявить значение фитнес-браслетов и приложений для успешного ведения здорового образа жизни.

Материалы и методы исследования. Материалами исследования являлись научные источники, размещенные в научной электронной библиотеке eLibrary (сайт <https://elibrary.ru>). Методы исследования: изучение научных литературных источников, обзор научных публикаций.

Результаты и их обсуждение. Фитнес является доступным, интересным и эффективным методом поддержания фигуры, здоровья и эмоциональной стабильности. Все это обуславливает не только развитие новых направлений, но и повсеместное внедрение этих программ в повседневную жизнь граждан России. Больше половины людей в России занимаются этой физической активностью, что заставляет эту индустрию развиваться и дальше.

Заключение. Желание заниматься фитнесом имеет разные мотивы: от сохранения здоровья до подражания кумирам. Все они способствуют поддержанию гражданами здорового образа жизни. В свою очередь, популярность данного направления дала огромный толчок к развитию фитнеса. Были выявлены полезные свойства фитнеса даже для спортсменов и профессиональных игроков.

Ключевые слова: *фитнес, направления фитнеса, спорт и фитнес, фитнес в России.*

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