

# Physical Training Challenges for Taxi Drivers in the Context of China's National Health Strategy

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## Abstract

Amid the rapid urbanization aligned with the Healthy China initiative, the taxi industry has emerged as a critical component of urban transportation systems. However, prolonged driving hours, high-intensity workloads, and irregular schedules severely compromise taxi drivers' physical well-being. This study examines the occupational characteristics and health status of taxi drivers, emphasizing the role of physical training in enhancing their fitness, ensuring road safety, and mitigating occupational diseases. Furthermore, it identifies key barriers to effective physical training, including time constraints, limited access to professional guidance, and motivational deficits.

## Keywords

Healthy China; taxi drivers; occupational health; physical training; barriers.

## 1. Introduction

The Central Committee of the Communist Party of China and the State Council promulgated the "Healthy China 2030" Planning Outline, articulating a comprehensive people-centered national health strategy with clearly delineated objectives and implementation pathways. Within urban transportation ecosystems, the taxi industry represents an indispensable service sector, wherein drivers constitute a critical workforce responsible for ensuring safe and efficient mobility services for urban residents.

However, the occupational paradigm inherent to this profession is characterized by two predominant constraints: (1) prolonged periods of sedentary driving, and (2) chronic circadian rhythm disruption. These occupational hazards systematically preclude opportunities for structured physical conditioning, thereby inducing measurable health deterioration among drivers. This physiological compromise subsequently manifests in diminished service quality and impaired occupational performance through multiple pathways.

Consequently, scholarly investigation into physical fitness interventions for taxi drivers assumes dual significance. Theoretically, it contributes to: (i) advancing knowledge in occupational health epidemiology, and (ii) elucidating the health-service quality nexus in transportation sectors. Practically, it addresses urgent public health imperatives by informing evidence-based interventions that simultaneously optimize both workforce wellbeing and service delivery outcomes.

## 2. Physical Training and Its Development in China

Physical training represents a comprehensive exercise modality involving systematic movements that enhance fundamental physical qualities including strength, speed, endurance, flexibility, and agility. It can be specifically categorized into strength-oriented and speed-oriented training programs. These essential components collectively establish the foundational framework of physical conditioning, ultimately determining athletic performance [1]. In recent years, China has witnessed remarkable growth in physical exercise participation, driven by increasing public health awareness and improved living standards. Physical training has now

transcended its traditional domain of professional athletes and become an integral component of daily fitness routines for the general population. This trend has created significant development opportunities for fitness centers, health clubs, and related facilities amid the rapid expansion of the fitness industry [2].

Current research emphasizes the critical importance of establishing robust evaluation mechanisms for physical training. Such assessment protocols primarily examine athletic performance through quantitative monitoring of movement patterns, physical fitness parameters, blood pressure, and heart rate responses. These evaluations play a pivotal role in optimizing training outcomes, facilitating performance enhancement, and enabling the development of scientifically-grounded exercise prescriptions to push physiological limits [3]. China's fitness landscape has evolved through distinct developmental phases - from initial introduction to gradual popularization and eventual widespread adoption. With the pervasive dissemination of national fitness culture, public engagement in structured exercise programs continues to intensify, propelling the physical training domain toward more specialized, scientific, and personalized development trajectories [4]. As essential contributors to urban transportation systems, taxi drivers represent a professional group that particularly requires structured physical training regimens.

### **3. Occupational Characteristics and Health Status of Taxi Drivers**

#### **3.1. Occupational Characteristics**

Taxi drivers typically endure extended working hours, often involving continuous driving shifts exceeding 8 hours, including late-night operations and holidays, to accommodate diverse passenger demands. This high-intensity, high-stress work pattern with irregular schedules significantly disrupts circadian rhythms, resulting in chronic physical and mental fatigue. Such occupational stressors not only pose substantial health risks but also elevate susceptibility to various occupational diseases.

#### **3.2. Health Status**

##### **3.2.1. Physical Fitness Decline**

The prolonged lack of necessary physical activity and exercise has resulted in a significant decline in physical fitness among taxi drivers, particularly evident in the noticeable weakness of core muscle groups and lower limb strength. As an indispensable component of urban transportation systems, taxi drivers work in environments characterized by high tension, continuous noise pollution, and pervasive vehicle exhaust emissions. Due to these occupational characteristics, taxi drivers have become a high-risk group for occupational fatigue. Research indicates that excessive workload, insufficient social support, and role conflicts are closely associated with the development of occupational fatigue. Given the central role of drivers in taxi safety, their physical and mental health not only directly affects the quality of passenger service experience but also serves as a crucial guarantee for road safety [5].

##### **3.2.2. Elevated Psychological Stress**

The inherently intensive and highly stressful nature of taxi driving requires operators to make rapid, accurate judgments and responses within dynamic traffic environments. Concurrently, they must accommodate diverse passenger demands and occasional complaints, which substantially exacerbates psychological burdens. Chronic exposure to such significant stress has inevitably led to mental health issues including anxiety and depression among many taxi drivers, adversely affecting both their quality of life and professional performance. Research by Zhang Defang et al. demonstrates that taxi drivers' psychological wellbeing is influenced by multiple complex factors, including extended working hours, circadian rhythm disruption, traffic congestion, driver-passenger conflicts, and robbery risks. Approximately 30% of taxi

drivers express concerns about their mental health status and report symptoms such as irritability and insomnia [6].

### **3.2.3. Occupational Disease Risks**

Taxi drivers also face elevated risks of occupational diseases. Prolonged sitting positions subject their cervical and lumbar spines to continuous pressure, significantly increasing susceptibility to occupational pathologies such as cervical spondylosis and lumbar disc herniation. These conditions not only cause substantial physical discomfort but also impose additional medical expenses, thereby adversely impacting financial stability. Research by Jia Wen et al. indicates high prevalence of lumbar pain among professional drivers, potentially associated with the complex neuromuscular control demands of the occupation. Vehicle operation requires maintaining specific postures for steering wheel and pedal control, with such static muscular activity potentially restricting normal lumbar mobility. Extended work shifts exacerbate cumulative loading on lumbar soft tissues and biomechanical stress, leading to muscular tension, spasms, and potential neural/ligamentous compression. Furthermore, muscular hypertonia and fatigue may accelerate tissue microtrauma, promoting metabolic byproduct accumulation that impairs local circulation and ultimately elevates lumbar pain risks [7].

## **4. The Necessity of Physical Training for Taxi Drivers**

### **4.1. Importance of Physical Training**

The imperative of physical training for taxi drivers cannot be overstated, as their physical conditioning directly correlates with work efficiency, road safety, and overall health status. Effective physical training primarily enhances drivers' physiological capabilities through targeted strength and endurance exercises, enabling them to better withstand the physical demands of prolonged, high-intensity driving. This improvement in muscular fitness maintains optimal mobility and sustained stamina during vehicle operation, which proves essential for service quality enhancement and traffic accident prevention.

Furthermore, physical training yields significant psychological benefits by serving as a scientific stress-relief mechanism. Regular exercise facilitates emotional regulation and strengthens mental resilience, thereby mitigating occupational burnout risks and promoting psychological wellbeing. Finally, standardized physical conditioning represents a proactive intervention against occupational diseases. Specifically designed to counteract the health consequences of prolonged sitting, such training programs strengthen core musculoskeletal groups, effectively preventing cervical spondylosis and lumbar disc herniation. These physiological adaptations not only safeguard drivers' health but also extend their professional longevity.

### **4.2. Practical Challenges**

Despite the recognized importance of physical training for taxi drivers' health and occupational performance, significant implementation barriers persist in real-world settings. The primary challenge involves scheduling difficulties due to the highly irregular working hours and unpredictable passenger demands characteristic of the profession, which collectively hinder drivers' ability to dedicate consistent time blocks for structured training or locate appropriate exercise facilities.

A second critical barrier stems from the lack of professional guidance. Most taxi drivers possess limited exposure to formal athletic training, resulting in insufficient knowledge and skills to develop scientifically-valid, occupation-specific exercise regimens. This knowledge gap frequently leads to suboptimal or misguided training practices.

Finally, motivation deficiency presents a substantial obstacle. The combined effects of high occupational stress and chronic physical exhaustion often leave drivers in states of profound

fatigue, substantially diminishing both intrinsic motivation and external incentives for exercise participation. This motivational barrier significantly impedes the widespread adoption and sustained engagement in physical training programs among this workforce.

## **5. Physical Training Approaches for Taxi Drivers**

### **5.1. Customized Physical Training Programs**

Given the unique and diverse nature of taxi drivers' occupational demands, the development of personalized physical training regimens proves particularly essential. Such programs should comprehensively evaluate drivers' professional characteristics, baseline fitness levels, work-rest patterns, and potential health concerns to design holistic training plans incorporating strength conditioning, flexibility enhancement, and cardiopulmonary endurance improvement. The regimens require periodic adjustments based on physiological responses and training feedback to ensure scientific validity, effectiveness, and safety. As demonstrated in Ma Fei's research, yoga practice—through its breathing techniques (pranayama), postural exercises (asanas), and meditation—not only strengthens taxi drivers' physical capacities and reduces occupational diseases like cervical and lumbar disorders, but also promotes mental calmness, enhances driving concentration, improves sleep quality, and effectively mitigates work-related stress [8].

### **5.2. Efficient Utilization of Fragmented Time for Training**

Given the demanding work schedules of taxi drivers that preclude extended continuous exercise sessions, the development of time-efficient, easily implementable physical training modules becomes essential. These programs should combine practicality and engagement, incorporating 10-15 minute routines such as dynamic stretching, bodyweight exercises, and high-intensity interval training (HIIT), designed for performance during brief rest periods or passenger waiting intervals. Digital platforms including mobile applications and social media channels should deliver instructional training videos to ensure convenient, on-demand access to exercise resources, thereby enhancing program accessibility and appeal. To optimize body mechanics and minimize injury risks during these condensed sessions, particular emphasis must be placed on developing fundamental strength, improving flexibility, and reinforcing proper movement patterns [9].

### **5.3. Establishing an Optimal Physical Training Environment**

To enhance taxi drivers' engagement in physical training, the industry should actively pursue strategic collaborations with external resources, including partnerships with community fitness centers and sports clubs to provide subsidized membership services, dedicated training spaces, and professional exercise equipment. Concurrently, organizing regular group fitness activities such as morning runs, yoga classes, and strength training sessions can foster social interaction among drivers while cultivating a positive training atmosphere. Such initiatives not only improve exercise adherence but also facilitate the widespread adoption of healthy lifestyles within the profession. It is imperative to address the structural shortage of qualified instructors by establishing specialized trainer certification programs that enhance coaching competencies through comprehensive education systems. This requires developing robust training mechanisms with complete curricular frameworks based on three fundamental pillars: theoretical foundations, practical skill development, and operational techniques. Systematic efforts must be made to strengthen instructor training programs and develop professional teaching teams through standardized capacity-building initiatives [10].

#### 5.4. Enhancing Professional Guidance and Training

The introduction of certified exercise health professionals is essential to provide taxi drivers with specialized physical training guidance and consultation services. These professionals should conduct regular assessments of drivers' physical fitness levels and training progress, subsequently developing individualized exercise prescriptions based on evaluation results. Concurrently, they must instruct proper exercise techniques, breathing methods, and recovery strategies to minimize injury risks. Furthermore, organizing health education seminars and workshops to disseminate knowledge regarding nutrition, psychological adjustment, and sports injury prevention will significantly improve drivers' self-care awareness and capabilities. To precisely address trainees' specific requirements while enhancing training efficiency and sustainability, targeted educational programs must be developed according to diverse needs. Critical factors including individual posture analysis, exercise history, and goal setting serve as fundamental components when designing personalized training regimens [11].

#### 5.5. Enhancing Driver Motivation and Participation in Training Programs

Improving taxi drivers' health awareness and exercise engagement constitutes a fundamental component of program optimization. Targeted initiatives should include health competitions, fitness challenges, and training workshops, such as "Healthy Driving Star Awards" and "Elite Fitness Driver Challenges," incorporating incentive mechanisms to encourage active participation while showcasing individual achievements. Concurrent utilization of social media platforms to disseminate success stories, training methodologies, and health maintenance tips can establish positive role models and motivational effects, thereby stimulating broader participation. These multifaceted approaches not only effectively increase training adherence rates but also cultivate a culture of health consciousness and professional excellence within the industry, ultimately contributing to the sustainable development of taxi services.

### 6. Conclusion

In summary, physical training for taxi drivers is essential to safeguarding their health and enhancing service quality. Addressing the practical challenges they face in maintaining regular exercise requires a multifaceted approach. Tailored training programs must be developed to account for occupational demands and individual fitness levels, while time-efficient exercise modules should be designed to accommodate fragmented schedules. Equally critical are the establishment of supportive training environments, access to professional guidance, and the implementation of motivational strategies to sustain engagement. Through these comprehensive interventions, significant improvements in drivers' physical fitness and overall well-being can be achieved, ultimately contributing to the sustainable development of the taxi industry.

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