



## Research article

# Exploring resistance to change in Chinese children's sports schools: An analysis of multiple external and internal perspectives

Yu Tian<sup>a</sup>, Xuemei Shao<sup>b,\*</sup><sup>a</sup> Department of Journalism and Communication, Wuhan Sports University, Wuhan, China<sup>b</sup> Department of Sports Management, Shandong Sport University, Jinan, China

## ARTICLE INFO

## Keywords:

Organizational behavior  
Resistance to change  
Public institutions  
Chinese children's sports education  
Competitive sports

## ABSTRACT

The development of sports in children is crucial. Unlike European and American sports clubs, China uses children's sports schools as its main form of competitive sports training. However, with the changing economy and mindset in China, this approach is facing challenges and is in urgent need of changes allowing the school and its internal staff to be more sustainable as they can adapt and survive in the overall market. This change means that such schools can no longer simply rely on government assistance but rather must be more in tune with the market economy and gain competitiveness. Zhangjiakou, China, one of the host cities for the 2022 Beijing Winter Olympics, has a good overall sports atmosphere. Its municipal government attaches importance to sports development, including children's sports, with several children's sports schools that are typical of this study. Accordingly, seven Zhangjiakou sports schools were selected for investigation through field research and sampling. Moreover, the sources of resistance to change in Zhangjiakou children's sports schools were analyzed from multiple perspectives, including external politics and economy, internal group and individual perspectives, using data from questionnaires and in-depth interviews.

## 1. Introduction

Adolescent development is crucial to a country's future. For adolescent development, in addition to knowledge, sports development is crucial, especially in mitigating obesity and other health disorders. Many scholars have studied the benefits of sports in adolescent development, starting with the competitive aspect, as it can help adolescents learn physical skills, appreciate fitness, develop a sense of belonging, and acquire sports skills for leisure [1]. After analyzing the relevant literature, Malina and Cumming (2004) concluded that sports have growth and maturation effects, as regular physical activity leads to increased fitness, improved self-concept or self-worth, social competence, and moral development [2]. In addition, other scholars have found that developing a sense of sports helps adolescents better adapt to society; also, participation in sports activities enhances their moral development, thereby reducing delinquency and aggression [3]. In Europe and the United States, participation in organized sports activities has become a common part of childhood. In the early twentieth century, institutions began sponsoring sports activities initially aimed at keeping boys out of trouble, with schools providing athletic instruction in sports programs [3]. Prior to 1954, most children's sports activities were conducted in social institutions such as the YMCA. After 1954, these activities shifted to adult sports organizations [4]. In addition to social institutions, sports clubs are becoming increasingly important venues for children's participation in sports. The origins of sports

\* Corresponding author. Department of Sports Management, Shandong Sport University, Jinan, 250000, China.  
E-mail address: [shaoxuemeitj@163.com](mailto:shaoxuemeitj@163.com) (X. Shao).

<https://doi.org/10.1016/j.heliyon.2024.e24270>

Received 25 September 2023; Received in revised form 2 January 2024; Accepted 5 January 2024

Available online 6 January 2024

2405-8440/© 2024 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

clubs are currently divergent, but there is a consensus that clubs are central to the development of modern and, in some cases, pre-modern sports [5–8]. Conversely, primary and secondary schools have dominated the development of children's sports in China, and it is only in the twenty-first century that the sports club format gradually emerged and became popular in China.

Although the effectiveness of sports clubs for children's sports development in China has yet to be examined, another form of children's sports development has long existed and achieved remarkable success and become one of the main forms of competitive sports training for children in China, the children's sports school which, with the collapse of the Soviet Union, is now unique to China. The Chinese sports system can be divided into three main categories: competitive sports, mass sports, and school sports. Competitive sports are primarily based on a three-tier training network, which refers to the primary training form represented by traditional sports schools and primary and secondary school sports teams, the intermediate training form represented by sports schools and amateur sports schools, and the advanced training form represented by national training teams and provincial professional teams. Children's sports schools are intermediate training systems.

Chinese children's sports schools were established in the 1950s to improve China's international status through international competitions. It was based on the Soviet model of sports development and was developed within the framework of military sports. On the one hand, it undertakes the task of developing children's sports skills and physical health; on the other hand, it is also responsible for tapping and reserving outstanding sports talents for national sports development, as more than half of China's world champions have been trained by children's sports schools. Thus, research on Chinese children's sports schools can expand the scope of research on children's sports education institutions, especially on children's competitive sports institutions, drawing global attention to the current situation of such widespread institutions in China.

In China, special attention has been paid to the construction and reform of the educational system in order to build a high-quality teacher education system based on the premise of creating a professional and high-quality teacher education system, a high-quality lifelong learning system based on the premise of improving a lifelong learning system that serves all people, and a high-quality guarantee system based on the premise of creating a high-quality and efficient guarantee system while deepening comprehensive reform in the field of education and promoting the modernization of the education governance system [9]. In the sports system, China aims to reduce the control of the state system to create a new Chinese sports system that combines the government and market.

With the reform and opening up, especially in the twenty-first century, China has undergone radical changes in both its economy and ideology. Accordingly, the operation of children's sports schools is affected by various factors such as sports clubs, which urgently need to change to stay current with the times. As a host city of the 2022 Beijing Winter Olympic Games, Zhangjiakou, China, has a good overall sports atmosphere. The municipal government attaches importance to the development of sports, including children's sports and has established several children's sports schools. Zhangjiakou Children's Sports School, first established in 1956, was one of the earliest sports schools in China to train young sports reserve talents. The school now offers 14 Olympic and non-Olympic sports such as soccer, basketball, and volleyball. With more than 60 years of development, it has also followed the country through many changes. In particular, after 2000, the school independently established several other sports schools for specific sports. Moreover, after its successful bid for the 2022 Beijing Winter Olympics, Zhangjiakou, the host city, targeted changes in winter sports and established a series of winter sports schools. Despite these changes, its performance in the Hebei Provincial Games remained unsatisfactory, ranking at the bottom of the list.

The study of organizational change involves the empirical observation of an organizational entity with a shape, quality, or state changing over time [10]. Owing to the complexity of environmental events and the rapid development of technology, organizations face many pressures for change that can come from both the external and internal environments [11]. Continuous development can force organizations to take change measures, which can arouse resistance to change because change, small- or full-scale, blocks the existing situation from continuing. Employees resist change for various reasons, such as uncertainty (loss of position, control, and power) [12]. Pressures for change in educational organizations include government intervention, social values, changing technology, management processes, and measures to meet the needs of school members. Specifically, the government plays an important role in education by intervening in the development of educational policy through legislation that addresses the right to education, equal educational opportunities, educational justice, and the agenda for people with disabilities and economically disadvantaged groups. In addition, the societal values and educational needs of school members influence government legislation, which in turn influences educational organizations by updating the coordination mechanisms and organizational designs in the education system, individual job designs, and administrative processes [13]. Resistance to change can be extremely strict or soft. Hultman identified two types of resistance: active and passive. Active resistance involves criticism, finding mistakes, mobbing, expressing fear, accusing, choosing, and utilizing some facts deliberately, sabotaging, threatening, manipulating, distorting truths, blocking, trivializing, and discussion. Passive resistance occurs in the form of agreeing but not acting; failing to achieve change; behaving reluctantly; letting the change process fail; and not sharing information, suggestions, help, or support [14]. However, no matter how successful or well managed the proposal for change is, individuals in the organization will either implement or sabotage the change because they have a certain outlook on the matter [15].

In addition to the previously mentioned approach to building new schools, Zhangjiakou Children's Sports School has also made explicit attempts to change to a market-oriented approach, such as opening sports tutoring classes and hosting sports events. However, some of these attempts have met with clear opposition and have failed. Zhangjiakou Children's Sports School's most important purpose for change included two main categories. The first was to improve the ranking of Zhangjiakou Children's Sports School in the province, and the second was to reverse the current situation of financial loss so as to improve the income of the staff. Therefore, the main focus of this study was the resistance to change in children's sports schools in Zhangjiakou. Seven of these schools were randomly sampled as survey subjects, as shown in [Supplementary Material Tables 1 and a](#) combination of quantitative and qualitative methods, namely questionnaire surveys and in-depth interviews, were adopted to explore the specific changes and obstacles in the current Zhang

family's youth amateur sports school. Specifically, resistance to change in major children's sports schools in Zhangjiakou was studied from both perspectives. External aspects are mainly related to political, economic, and social factors, whereas internal aspects are mainly related to organizational, group, and individual factors. Based on the conclusions drawn, it is possible to identify the challenges and obstacles to the transformation of amateur sports schools in China.

This study enriches theoretical research on Chinese children's sports schools in areas such as organizational change. At present, most research in China on Chinese children's sports schools is still in the basic stages of training status surveys, and there has been relatively little research on resistance to change. This study enriches relevant research on Chinese children's sports schools and explores the resistance to the transformation of these schools from the perspective of China's national strategic change. Second, this study is conducted from the perspective of China's strategic transformation of the athlete training system. Faced with such requirements, this study attempts to explore certain theoretical results from the Chinese children's sports school section, analyze the problems that arise in the overall policy changes of the training system after nationwide changes, and identify solutions. Finally, this study conducted research on relevant personnel in schools through questionnaires, interviews, and other forms, yielding data reflecting the true views of stakeholders in Chinese children's sports schools on change that can serve as a relevant data basis for subsequent research.

## 2. Methods

The purpose of this study was to explore the areas in which children's sports schools in Zhangjiakou resist change. According to Robbins' *Organizational Behavior* [16], organizational resistance to change usually arises in both internal and external parts of the organization. According to the PEST ( Politics, Economy, Society, Technology ) model, external resistance mainly comes from political, economic, and other aspects, whereas internal resistance mainly comes from individual and group levels.

At the individual and group levels, the internal factors are mainly human factors; therefore, this research adopted a questionnaire survey method for analysis. Six people, three PhDs in the field and three leaders of sports schools (Supplementary Material Table 2), conducted expert validity tests on the three sets of questionnaires, on the basis of which we modified the questionnaire. The experts' opinions showed that the questionnaires as a whole met reasonable standards of overall content and structure (Supplementary Materials Tables 3–4).

The survey was conducted over a period of three months. A total of 116 questionnaires were distributed, including 34 for staff and 82 for coaches, as shown in Supplementary Material Table 5. As the questionnaire was in the form of a scale, its reliability was tested using Cronbach's alpha. The results showed that the reliability of the staff questionnaire was  $R = 0.829$  and that of the coaches' questionnaire was  $R = 0.852$ , which was good.

Considering that external and internal organizational factors are difficult to describe clearly through survey questionnaires, this study also used in-depth interviews to advance the research. In-depth interviews were conducted with the administrators and coaches of children's sports schools in Zhangjiakou to understand the content related to change and resistance to change. These included six principals, one cadre, five staff members, and five coaches (Supplementary Material Table 6). The interviews were analyzed using three-level coding to summarize the content of the conversations.

## 3. Results and discussion

### 3.1. Sources of external resistance to change intensity are predominantly political and economic

On the one hand, at the political level, changes are mostly required by higher policies, leading to increased resistance; on the other hand, other policies will have an indirect impact on resistance. According to the data from this survey of sports schools, the current change initiative comprises internal changes and policy demands, with policy demands being the majority. These have been issued by the municipal government or Sports Bureau according to their own needs and implemented by sports schools. For example, the Zhangjiakou city government required its departments to streamline their organizations, so the four separate children's sports schools had to merge, with cycling, shooting, and soccer sports schools being recentralized. At present, national policy sports departments in the district and county areas have merged with education and other departments. The same has occurred in Zhangjiakou, although there have been no changes at the municipal level. However, cooperation is also increasing.

Y: What is the current resistance to change from outside the school?

X: At present, we are facing some changes in the school, mainly due to the requirements of the higher authorities, such as the splitting of this school a few years ago from a split into several. Some of the program's strengths independently shaped the school, and recently we were asked to regroup; we have to become a school again, back and forth, repeated changes. In addition, there are some innocents implicated in the policy. The original student training was a special place, but May Day Square was demolished because of urban planning. I moved to this place now. Training is greatly restricted. The new site has been repaired but has yet to be officially implemented.

At the economic level, a lack of government funding leads to strong resistance to change. Currently, most of the economic resources of all sports schools in Zhangjiakou originate from budgetary allocations. According to surveys and interviews, the financial allocation for sports schools in Zhangjiakou in 2019 was less than 800,000 yuan, whereas other cities in Hebei Province with the same level of competition as Zhangjiakou were given more money. For example, Qinhuangdao was allocated 7.4 million; Handan was given 9.4 million; Baoding received more than 18 million; and Tangshan and Shijiazhuang, which have always been large cities for competitive sports, were given even more.

The economy is also a big issue. How much do we get in grants from the government every year?

It is just under 800,000 yuan a year for everything, while several other cities on par with Zhangjiakou's athletic level are getting millions. Moreover, the money you get from the winter program is earmarked for the winter program. In addition, some teachers in the school do not have a staff, and their salaries have to come out of it. (Principal A)

A lack of funding implies a lack of training equipment, specifically consumable equipment, which directly affects training performance. In addition, although the salaries of permanent staff are not included in the financial allocations, contract employees fall under these allocations, which further limits funding. The salaries of the permanent staff are generally unsatisfactory because of the nature of the institution, which creates a lack of motivation for them to push for change. At the social level, there are major problems such as the impact of the prevalence of sports clubs on training and the difficulty of selection.

China's political structure is unique for a country with a vast wealth of resources. The administrative levels in China mainly include provincial, municipal, county, and township levels, each with corresponding functional departments to be managed by higher levels in the field of education and sports, including the State Ministry of Education and the General Administration of Sports, the Department of Education and the Sports Bureau at the provincial level, the Municipal Education Bureau, and the Sports Bureau. By contrast, the township and county levels have merged the education and sports departments. Each functional department is subject to the leadership of the provincial government, municipal government, county government, and commune government on the one hand, and to the leadership of the higher department of this function in some work on the other hand; for example, the municipal education bureau is subject to the leadership of the provincial education department. However, children's sports schools are under the leadership of sports bureaus at all management levels and are public institutions with financial allocations from the sports bureaus. Nevertheless, some of the work of the Education Bureau was also directed. Most of the schools are run in the "one centralized" mode (daily training in amateur sports schools and cultural studies in their schools), and some are run in the "three centralized" mode (room and board, cultural studies, and training in amateur sports schools). The organizational structure is relatively homogeneous and is usually divided into two main sections: administration and training, consisting of the principal and vice principal's office, the administration office, the training section, the finance office, the academic affairs office, and the logistics center. Despite the existence of a training department, the actual management of the school is more of an administrative or leadership role, with minimal political involvement of the teachers, or teachers playing more of an executive than a formulating role. Zhang and Powell (2022) conducted a series of studies of Olympic education in two elementary schools in Beijing. They summarized these studies as showing many dangerous tendencies in the process of Olympic education in these two schools, which did not really reflect the Olympic purpose and even had no relation to the Olympics but was more like a political show. In addition, Olympic education still needs to be completed by schoolteachers. However, it was outsourced through school management, and the teachers were more like executors and were not involved in political management.

As can be seen from the above, there is an inevitable conflict between administrative management and the organization's members. This conflict could exacerbate resistance during the process of change. Whereas in administration, the leadership style of the leader is one of the main factors, some studies have shown that the cognitive rigidity of school leaders can cause a high level of correlation in the generation of resistance to change in schools [17], suggesting that rigid administration can deepen resistance to change, as opposed to an enlightened leadership and management climate, which is more likely to reduce resistance. The forces encountered in turbulent external environments and dynamic internal environments are equally valid for educational organizations because nonprofit organizations (e.g., schools) also experience technological, structural, social, and financial changes [18]. Indeed, within both commercial and official organizations, corrupt administrative and bureaucratic environments profoundly affect resistance to organizational change, which exacerbates the contradictions and tensions between the organization and its members.

In addition to the administration, the same is true of the bureaucratic environment: Bureaucracy is "a body of professional, full-time officials employed in the civil affairs of a state in non-political capacity" [19]. In Nigeria, the bureaucratic government has made the call for change from the bottom more robust. At the same time, the bureaucratic government has made it challenging to implement the call despite its high level, aggravating tensions in the relationship between the two sides [20].

Research has thus shown that as a public institution, political factors in children's sports schools can greatly affect the development and promotion of school reform and form resistance to it. However, compared with other obstacles, resistance to political factors is the most difficult. This is because for public institutions, "political tasks" must be completed, even if these contents were sometimes not suitable for the environment of schools at that time. Although change might not initially create resistance, the process is relatively slow and creates resistance during the promotion process. Therefore, in such a process, it is important to understand grassroots opinions and actively respond to higher-level departments. Higher-level departments should provide real-time feedback after receiving opinions rather than just receiving them and not shirking responsibility. After forming this virtuous cycle, the demands of grassroots employees are listened to, and even if policies are modified, resistance to natural political factors will decrease, and the promotion of change will accelerate.

Currently, the financial resources of children's sports schools are limited, greatly limiting performance improvement. Moreover, owing to a lack of funding, many conceptual changes could not be made, creating resistance. When funding cannot be obtained, only social cooperation is sought. Social sports is a trend in China's sports development. Although Zhangjiakou has just begun to implement relevant layouts, amateur sports schools should seize this opportunity. On the one hand, after the popularity of social sports became evident, many local entrepreneurs saw the reputation and benefits of sports and actively invested in and named them. As professional organizations for competitive youth sports, children's sports schools have a voice in event hosting, and the two cooperate to achieve mutual benefit and win-win results. On the other hand, Zhangjiakou City is gradually promoting the expansion of sports clubs. The coach resources of amateur sports schools are abundant, and sports clubs lack coaches. Therefore, the two can sign relevant agreements, which can not only bring financial income to amateur sports schools but also attract excellent "seedlings" and develop professional training. Only in this way, with the expansion of financial resources and the availability of funds, can many change ideas be

put into action, without being hindered by a lack of funds and stagnation, hindering the progress of change.

### 3.2. Internal resistance to change comes from two main levels: group and individual

#### 3.2.1. Resistance to change at the group level comes mainly from cohesion and information communication

These groups can be further classified into various types. In the case of Zhangjiakou sports schools, a functional approach was used to divide the school members into staff, coaches, and students. Because students in sports schools are often young and do not have the ability to distinguish right from wrong, this study focused on the other two major groups in the analysis process: staff and coaches.

The direction of cohesion between groups is one of the important reasons for the strength of resistance to change. The stronger the group cohesion in an organization, the more united it is. Conversely, unity may produce collective resistance. In other words, when change occurs, most people show resistance, and because of high group cohesion, the entire group resists and hinders the change.

First, according to the results of the questionnaire survey, it can be seen (Fig. 1) that staff and coaches perceived a high level of cohesion in the sports school to be dominant, indicating strong cohesion among members of the sports school. In addition, once a change occurs, it leads to a change in group resistance. Moreover, it can be seen that with the same number of staff and coaches in general options, coaches, having greater numbers, agree more with the idea of strong cohesion than do staff members. This is mainly because coaches tend to come from athletic backgrounds, and their personalities are more cheerful, allowing them to build camaraderie and positive working relationships.

Second, group cohesion is reflected in interpersonal relationships among group members; specifically, the better the interpersonal relationships, the more willing they are to support each other in the work environment. Therefore, in the questionnaire, the same staff members and coaches were asked about their personal relationships with colleagues. Based on the information presented in Fig. 2, it can be seen that both staff and coaches generally think they have better personal relationships with their colleagues. In other words, once a change occurs, if someone is unwilling to make a change, others tend to support that person, thus increasing resistance to change. However, this is not absolute; despite having good personal relationships, individuals do not necessarily support others if doing so affects their personal interests.

Resistance to change due to poor information communication is stronger for coaches than for staff. In an organization, the smooth communication of information between groups is crucial. Information here does not refer only to information in the traditional sense but also includes the content of documents, the spirit of meetings, and work handovers. When the main idea of this information is related to the content of the change, such as poor versus timely communication, it causes confusion, thus creating obstacles to change. In a group, the smooth communication of information often involves two aspects: horizontal and vertical communication. For staff members, the horizontal aspect is between different departments and the vertical aspect is between upper and lower levels. For coaches, on the other hand, the horizontal is between different programs and the vertical is with the administration. Therefore, regarding horizontal communication, the results of whether staff and coaches can obtain the information they need clearly and smoothly from other departments or programs are shown in Figs. 3 and 4.

The graphs show that 34 % of the staff members agreed and 32 % disagreed. In contrast, 28 % of coaches agreed and 32 % disagreed. The percentage of disagreement was the same for both groups, whereas the number of people who agreed was higher for staff members than for coaches. This indicates that staff members communicate information more smoothly between departments than between different programs during their daily work. This is mainly because, compared to coaches, most staff members have a higher cultural quality and stronger business ability; thus, they can express information that needs to be explained and exchanged more clearly. Between coaches, different programs have their own training contents, their daily interactions are not as frequent as those of staff members, and much information is hearsay and cannot be fully expressed; thus, the content will often be misrepresented.

Vertical communication involves the upward and downward directions of communication, notably, communication from the staff upward to the leadership group and downward to the coaching staff group. Communication from the coaches is upward to the staff or administration, and usually downward to the athletes. The vertical approach has the greatest effect on the advancement of change.

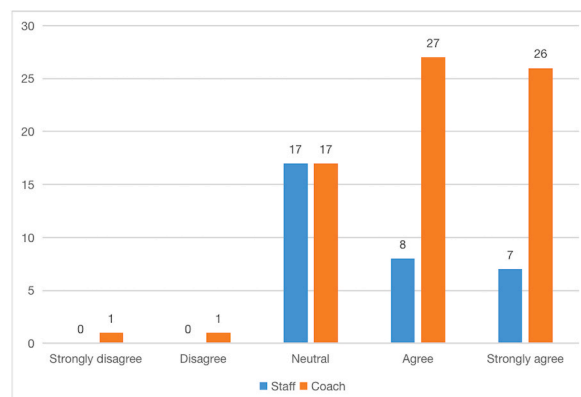


Fig. 1. The tendency of staff and coaches to identify with the high level of school cohesion.

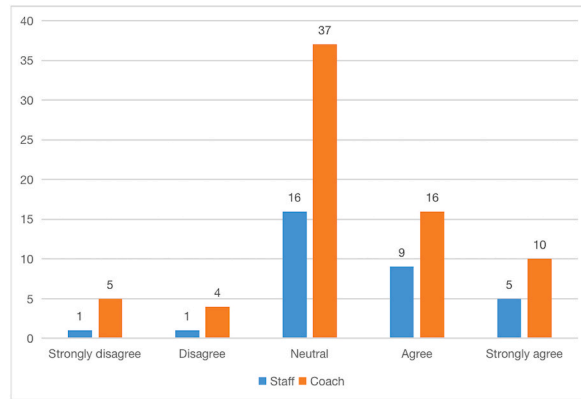


Fig. 2. The tendency of staff and coaches to identify with the close personal relationship of the school.

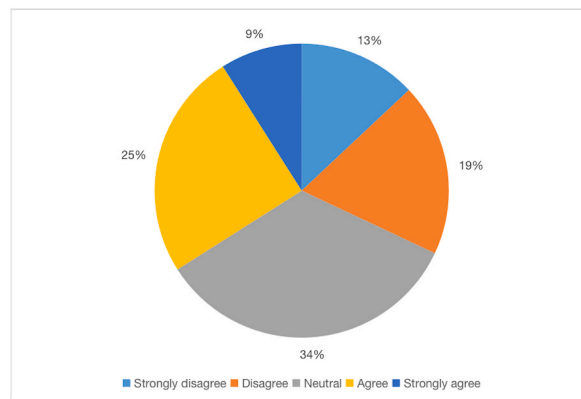


Fig. 3. The tendency of staff to identify with effective horizontal communication.

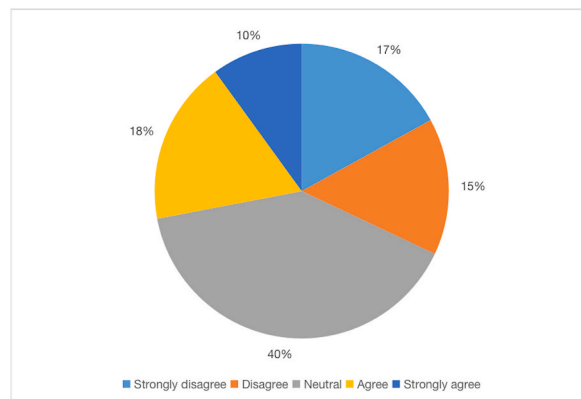


Fig. 4. The tendency of coaches to identify with effective horizontal communication.

Horizontal communication usually involves only cooperation at work, whereas vertical communication often involves the communication of information related to the spirit, content, form, and method of change. If a mistake or stagnation, it arouses great resistance to change. Based on the questionnaire data, it is evident from Figs. 5 and 6 that both the staff and coaches agree with the majority, which means that both groups believe that there are obstacles or unclear problems within the current vertical information communication in Zhangjiakou sports schools. Likewise, coaches still constitute a higher proportion than staff, which indicates that there are still some gaps in the leadership and administration of schools. Given this, not only is the information related to changes but also in the context of daily work, facing such a situation is likely to cause mistakes in work and hinder the development of sports



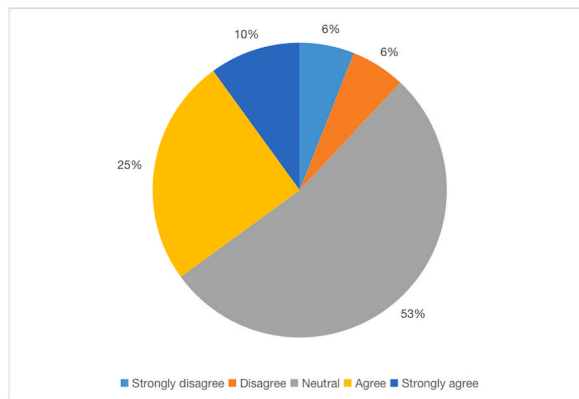


Fig. 5. The tendency of staff to identify with effective vertical communication.

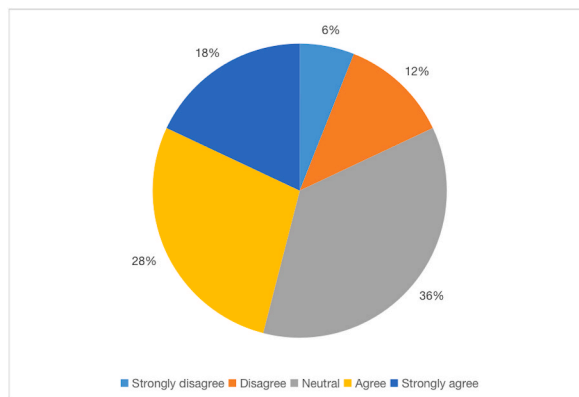


Fig. 6. The tendency of coaches to identify with effective vertical communication.

schools.

From the above survey on horizontal and vertical information communication, it can be observed that there are certain problems with daily information communication and exchange in Zhangjiakou sports schools. Both horizontally and vertically, resistance to change caused by poor information communication was stronger for coaches than for staff members. This also proves that there are work failures by the leadership group and administration that need to be improved over time.

An excellent group allows its members to have different voices and will not criticize them for it. In public institutions, because of their political functions, all behaviors often need to be based on superior leadership. Once employees have different opinions from the leadership, they are afraid of being targeted in future work and are unwilling to raise them, but silently resist in their daily work. Alternatively, when there is a relatively unified opinion on a certain event in the organization, some people who do not agree will be labeled as “dragging their feet,” and they will be unwilling to take the lead and instead resist privately. Faced with this situation, organizations should create an atmosphere of freedom of speech and allow different voices to appear in response to work. To implement this in practice, leaders should not shout empty slogans, be inconsistent, or shout different opinions on the surface but target employees everywhere behind the scenes; colleagues should also hold more brainstorming meetings to encourage new ideas. In this way, employees will not feel pressured because they are afraid to give their opinions. When the pressure decreases, their willingness to resist change will also decrease.

Because the work of public institutions is usually more rigid than that of enterprises and usually follows rules and regulations, it is necessary to specify in the form of rules and regulations whether employees are allowed to make changes. Providing employees with a clear understanding that change is necessary and must be implemented in accordance with the established system of the unit. Once sports school employees and coaches realize that changes are being implemented at the top tiers of the system, they will understand that it is not just a formality and will seriously examine whether there are any problems. When problems are found or do not match one’s own conditions, they are reflected upward, which to some extent indicates the importance of smooth communication channels between the upper and lower levels of sports schools.

In the process of change, due to the misinterpretation of many pieces of information, the content of the change cannot be fully conveyed to the grassroots level of the organization, resulting in incorrect cognition among grassroots staff and affecting the progress of the change. In Zhangjiakou A children’s sports schools, information communication channels are mainly divided into two types:

vertical and horizontal, with vertical transmission from top to bottom and horizontal transmission between departments. Owing to the insufficient personal abilities of leaders or administrative personnel, information errors may occur when transmitting information downward. Different departments are often plagued by rumors and are unable to learn the truth. Therefore, to prevent this phenomenon from occurring, it is necessary to establish information communication through both vertical and horizontal channels, such as using the Internet to directly disclose certain information or communicate with stakeholders, reduce intermediate links, and so on, to ensure that change information and even all work-related information can be efficiently and accurately conveyed.

### 3.2.2. Individual cognition and behavior are the main causes of resistance to change

From the demographic variables of staff and coaches in [Supplementary Material Table 7](#), it can be concluded that, first, the number of children's sports schools in Zhangjiakou is the largest in terms of both staff and coaches. Moreover, the number of remaining schools is relatively balanced. Second, in terms of gender, males still dominate, which is also related to the nature of sports schools themselves. In terms of age, 30–50 years is the most distributed age, from which we can see that the overall age of the sports school workforce is predominantly middle-aged. In terms of academic qualifications, a bachelor's degree accounts for more than half of the total, which can be seen as the overall cultural quality of sports schools, considering both staff and coaches, being improved at present. Finally, the per capita disposable income in the urban areas of Zhangjiakou in 2018 was 31,193 yuan, while the salaries of sports schools were mainly distributed in the ranges of 1000–3000 yuan and 3000–5000 yuan, which coincided with the per capita disposable income in urban areas.

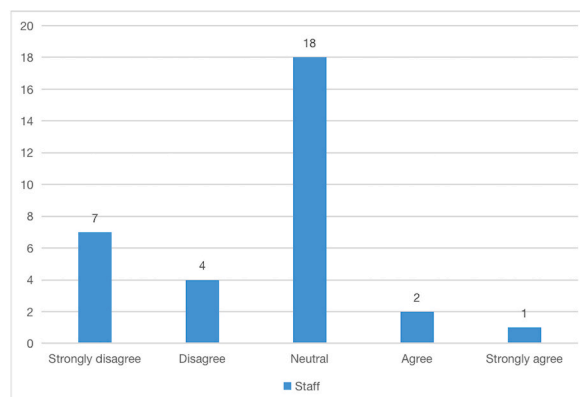
The existence of subjective bias in cognition is one of the important reasons for higher resistance to change. Individuals have certain prejudices regarding change. In cognitive resistance, individuals are biased against change and cannot look at change impartially or objectively, regardless of the specific measures of change. Concerning this matter, the staff and coaches were asked questions in the form of a questionnaire, the results of which are shown in [Fig. 7](#).

It can be seen from the figure that only a very small number of people agreed whether the change would be worse. Notably, the vast majority of people remained neutral or negative. This phenomenon indicates that a small range of cognitive biases exists among the members of Zhangjiakou sports schools. Consequently, it is possible that individuals will not directly resist change without understanding it, which provides an opportunity for change to advance. While staff members believe that change will worsen, coaches tend to believe that it will worsen their training performance. As shown in [Fig. 8](#), compared to the negative cases of staff members, coaches had a more balanced number of positive and negative cases. This indicates that, in the opinion of some coaches, change measures may negatively affect the performance in disruption-prone sports.

As has been noted, with the development of the market economy, a variety of children's sports clubs began to appear. Many parents are willing to send their children to clubs to improve their physical fitness, which might have affected the selection of sports schools in Zhangjiakou. Therefore, although sports schools and clubs do not differ in their training purposes, they must make certain changes to adapt to such changing trends to survive. However, regarding sports schools as the best training institutions for children's sports, both staff and coaches overwhelmingly adopted a neutral or even positive attitude, with only very few rejecting this idea ([Fig. 9](#)). In other words, the majority of people in sports schools in Zhangjiakou are prejudiced against sports schools, believing them to be stronger than sports clubs, and therefore will not necessarily support or even prevent them in the face of subsequent targeted changes.

The more familiar an individual is with his or her job, the stronger the resistance to change. Individuals are creatures of habit but generally resistant to work. In organizations, habituation and work laziness are the major factors that hinder change. This phenomenon is more evident in institutions and agencies than it is in companies. Habituality refers to the process of adapting to work and presents a high degree of similarity, such that the more familiar employees are with such work, the lower the chance that they will want to change, especially in the case of a guaranteed salary. In the case of Zhangjiakou Children's Sports School, the jobs of staff and coaches are different, so when exploring their habituation, the staff mainly focus on work, and the coaches mainly focus on training, thereby producing the results shown in [Figs. 10 and 11](#).

It can be seen that the overall familiarity with their work is high among both staff and coaches. This is in line with the



**Fig. 7.** The tendency of staff to identify with the belief that change will be worse.



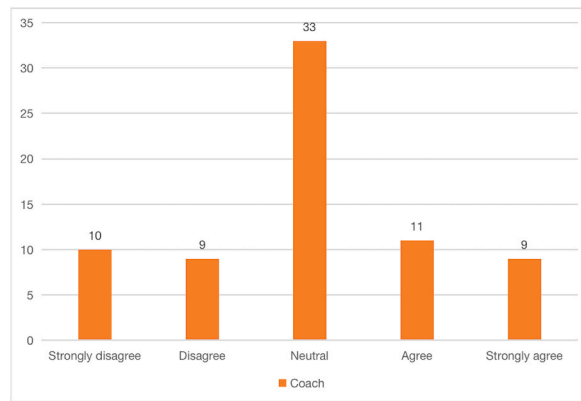


Fig. 8. The tendency of coaches to identify with the belief that change will reduce the state of athletes.

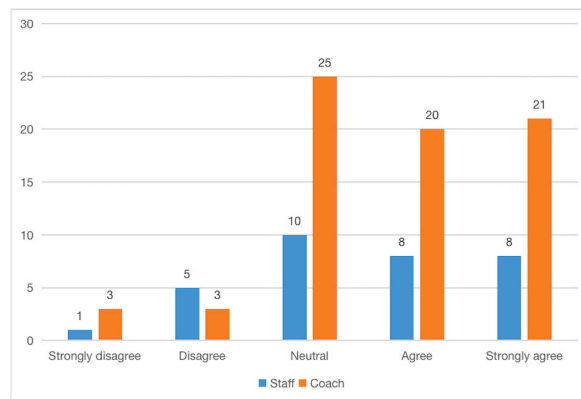


Fig. 9. The tendency of staff and coaches believe that sports schools are the best choice for training.

characteristics of their career units, which are not complicated, have a longer change cycle than enterprises, and rarely have internal changes. Under normal circumstances, the more familiar they are with their work, the stronger their laziness, that is, the stronger their unwillingness to change the status quo.

The most important reason why change is difficult to advance in an organization is the lack of a clear understanding of it and the belief that benefits will be lost after the change. According to Lau and Woodman’s qualitative and quantitative research, organizational members’ cognitive schema or knowledge structure regarding the relationship between change and its outcomes influences their coping patterns, and individuals’ cognitive schema is strongly influenced by their personality traits [21]. The relationship between personality variables and coping styles in organizational change shows that different personality traits produce different cognitions during the organizational change process. This results in different coping styles, adaptations, and maladaptations to organizational change, where maladaptation refers to resistance to organizational change. Multiple measures are required to obviate this situation. First, it is necessary to ensure that every employee has a clear understanding of the specific measures and intentions of the change and that there is no situation in which they have a partial or even complete understanding. This could lead to anxiety and fear. In addition, it is necessary to indicate to employees the benefits of the change that they cannot imagine or estimate. This will only cause employees to consider the negative side and resist the change. According to psychological studies, differences among individuals, such as gender, age, education, and income, can also generate different resistances to organizational change [22,23]. Therefore, some people who have inherent biases toward change do not care about the positive or negative results of the change and avoid it themselves. Bias in this group of people is often caused by inner fear and unwillingness to face it. Therefore, it is necessary to indicate the steps and measures for change, guide their thinking, and carry out ideological work in the name of the organization.

Compared with enterprises, the work of public institutions often has a highly repetitive characteristic, and it is easy for laziness, habits, and other states to arise at work. Once an external force breaks this state, the first strategy is to resist it. From the perspective of organizational work, the main task of sports schools is to cultivate sports reserve talent. After years of experience, they have become accustomed to these tasks. If they take on other tasks, such as higher-level requests to hold competitions, they are resistant and unwilling to accept them. From the perspective of individual internal employees, each employee has their own responsibilities, and their salaries are fixed. When they have become accustomed to their work and are assigned a new job, they will use various reasons to shift blame and refuse to perform. Therefore, to break this atmosphere, Zhangjiakou children’s sports schools must first change their

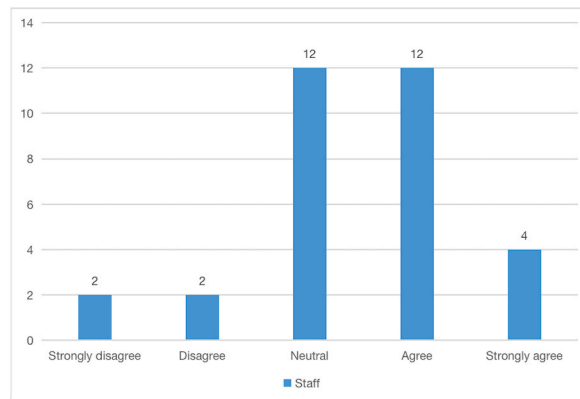


Fig. 10. The tendency of staff who believe they are very familiar with their daily work.

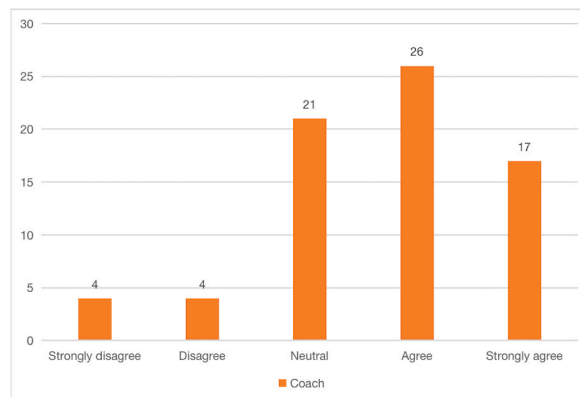


Fig. 11. The tendency of coaches who believe they are very familiar with their training.

mindset and adopt a rotation approach to familiarize employees with the work of other positions. In addition, measures such as evaluation and motivation can be taken to encourage employees to work harder. At the same time, it is also possible to use the learning conference spirit time to incorporate relevant content promotion and learning. The ultimate goal is to prevent employees from forming habitual thoughts about their work, thereby making them more receptive to change.

#### 4. Conclusion

This study utilized qualitative and quantitative methods to analyze the resistance to change in children's sports schools in Zhangjiakou, China. Zhangjiakou Children's Sports School's most important purpose for change included two main categories. The first is to improve the ranking of Zhangjiakou Children's Sports School in the province, and the second is to reverse the current situation of financial loss so as to improve the income of the staff. In the qualitative research, the external resistance to change and the organizational level in the internal resistance to change were analyzed using interviews whose data were coded at three levels. In the quantitative research, the group and individual levels of internal resistance to change were analyzed using questionnaire data. The specific findings are as follows.

Zhangjiakou Children's Sports School has undergone several changes in the decades since its development. In terms of its current development, its resistance to change comes mainly from several factors. External to the organization, political-level resistance is mostly due to higher policies requiring the advancement of change or other policies indirectly and voluntarily influenced by non-sports schools. Moreover, the leaders' lack of attention to children's sports leads to difficulties in advancing change. At the economic level, schools lack governmental financial assistance, and it is difficult to concentrate on social assistance, making the change difficult to implement.

At the group level, the resistance to change is stronger due to the strong cohesion of the group, and the communication and access to information of staff members are better than those of coaches, indicating that resistance due to poor communication of information about change is weaker for staff members than for coaches.

At the individual level, individuals have certain prejudices in their attitudes toward change that make them prone to resist and prevent change. Members of sports schools are more habitual but generally resistant, which means that in the initial stage of change,

there will be a short period of stagnation due to an individual's non-adaptation, and after adaptation, resistance will decrease.

This study had some limitations. First, it focused only on the situation of physical education schools in Zhangjiakou. Although this represents the reality of change in a significant proportion of physical education schools in China, it is not fully representative. Second, due to space limitations, the discussion on the external factors of resistance to change is relatively weak. Finally, because of space limitations, the proposed resistance to change is not described in detail, and only the relative focus is selected for analysis. Additional systematic modifications must be made in future studies.

### Ethics statement

This study was approved by the Ethics Committee of [Wuhan Sports University], with ethics approval reference [ID:2024003]. The participants provided their written informed consent to participate in this study. Written informed consent was obtained from the individuals for the publication of any potentially identifiable images or data included in this article.

### Statements and declarations

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

### Funding

This article was funded by the National Social Science Fund of China, Project Title: Research on the Dynamic Governance System of Public Services for National Fitness in the Digital Era, grant number: 21ATY002.

### Data availability

All data included in article/supp. material/referenced in article.

### CRediT authorship contribution statement

**Yu Tian:** Writing - original draft, Methodology, Data curation, Conceptualization. **Xuemei Shao:** Writing - review & editing, Supervision, Funding acquisition, Conceptualization.

### Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

### Acknowledgements

We thank the leaders, coaches and staff of the Zhangjiakou Children's Sports Schools support for study.

### Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.heliyon.2024.e24270>.

### References

- [1] V. Seefeldt, Overview of Youth Sports Programs in the United States, Carnegie Council on Adolescent Development., Washington, DC, 1992.
- [2] R.M. Malina, S.P. Cumming, Current status and issues in youth sports. *Youth Sports: Perspectives for a New Century*, 2004, pp. 7–25.
- [3] Vern D. Seefeldt, Martha E. Ewing, Youth Sports in America: an Overview, President's council on physical fitness and sports research digest, 1997.
- [4] John H. Laub, Janet L. Lauritsen, The precursors of criminal offending across the life course, *Fed. Probat.* 38 (3) (1994) 51–57.
- [5] Malcolm MacLean, Evolving modern sport, *J. Sport Hist.* 35 (1) (2008) 49–55.
- [6] Steven A. Riess, Associativity and the evolution of modern sport, *J. Sport Hist.* 35 (1) (2008) 33–38.
- [7] Stefan Szymanski, A theory of the evolution of modern sport, *J. Sport Hist.* 35 (1) (2008) 1–32.
- [8] Klaus Nathaus, The role of associativity in the evolution of modern sport: a comment on stefan szymanski's theory, *J. Sport Hist.* 36 (1) (2009) 115–122.
- [9] Hongyu Zhou, Yuyang Li, On the construction of high-quality education system, *Modern Education Management* 382 (1) (2022) 1–13.
- [10] H. Andrew, V. Van De Ven, Marshall Scott Poole, Explaining development and change in organizations, *Academy of Management Review* 20 (3) (1995).
- [11] Derya Yılmaz, Gökhan Kılıçoğlu, Resistance to change and ways of reducing resistance in educational organizations, *European Journal of Research on Education* 1 (1) (2013) 14–21.
- [12] John C. Bruckman, Overcoming resistance to change: causal factors, interventions, and critical values, *Psychol. Manag. J.* 11 (no. 2) (2008) 211–219.
- [13] Lunenburg, C. Frederick, Ornstein Allan, *Educational Administration: Concepts and Practices*, Sage Publications, 2021.
- [14] K. Hultman, *Making Change Irresistible. Overcoming Resistance to Change in Your Organization*, Davies-Black Publishing, California, 1998.

- [15] Robert Kreitner, Kinicki Angelo, Marc Buelens, *Organizational Behavior*, Irwin, Homewood, 1989.
- [16] Stephen P. Robbins, A. Judge Timothy, *Organizational Behavior*, Prentice Hall, Upper Saddle River, 2012.
- [17] Yusuf Inandi, Binali Tunc, Fahrettin Gilic, School administrators' leadership styles and resistance to change, *Int. J. Acad. Res. Psychol. B* 5 (5) (2013) 196–203.
- [18] Benjamin Levin, School response to a changing environment, *J. Educ. Adm.* 31 (2) (1993).
- [19] Bank, Asian Development, *The Role of Public Administration in Alleviating Poverty and Improving Governance: Selected Papers from the Launching Conference of the Network of Asia-Pacific Schools and Institutes of Public Administration and Governance*, Napsipag, 2005.
- [20] Olu Okotoni, Problems and prospects of Nigerian bureaucracy, *J. Soc. Sci.* 7 (3) (2003) 223–229.
- [21] Lau ChungMing, Woodman Richard, Understanding organizational change: a schematic perspective, *Acad. Manag. J.* 38 (2) (1995) 537–554.
- [22] Tamara Shefer, Mary Crawford, Anna Strebel, Leickness C. Simbayi, Nomvo Dwadwa-Henda, Allanise Cloete, Michelle R. Kaufman, Seth C. Kalichman, Gender, power and resistance to change among two communities in the western Cape, South Africa, *Fem. Psychol.* 18 (2) (2008) 157–182.
- [23] Kunze Florian, I.J.M. Beatrice, van der Hei Guido Hertel, Stephan Boehm, Heike Bruch, Age, resistance to change, and job performance, *J. Manag. Psychol.* 28 (7/8) (2013) 741–760.