



INFLUENCE OF ULTIMATE FRISBEE ON SOCIAL DEVELOPMENT FROM THE SPORTS FUNCTION PERSPECTIVE

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Abstract

Since the outbreak of the COVID-19 coronavirus epidemic, the impact on social development and the economy has been unprecedented. To prevent the COVID-19 epidemic, China has introduced a series of policies and measures, including home isolation and vaccine. However, working, studying, and living at home for a long time also bring unprecedented pressure on people's physical and mental health, which restricts people's work, communication, and participation in community activities. Public spaces like stadiums and gymnasiums have increasingly opened up due to the normalizing measures for epidemic prevention and control. People's thirst for sports and social activities has correspondingly grown. Ultimate Frisbee has become one of the most popular sports among young people because of its low participation threshold, sportswear fashion, engagement, and strong social content between men and women in their competition. In order to further support the rapid growth of Ultimate Frisbee in China, this study uses the techniques of literature review, questionnaire, interview, mathematical statistics, and logical analysis to examine the influences of Ultimate Frisbee on individual physical and mental health, interpersonal communication, economic development, and cultural development.

Keyword: Sports function, Ultimate Frisbee, Normalization of epidemic situation, Social development

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1. INTRODUCTION

According to Johns Hopkins University, as of September 27, 2022, the number of confirmed cases of NCC worldwide has reached 616,267,060, with 6,540,211 deaths among confirmed patients, meaning more than 9 out of every 10,000 people worldwide died from the NCC epidemic. In the face of the sudden and severe epidemic, the Chinese government has taken several effective measures to prevent and combat the epidemic, including urban lockdown, community closure management, home quarantine of residents, and maintaining social distancing. These measures effectively minimized the spread of COVID-19 and the possibility of its infection. At the same time, people were confined to an isolated space where their everyday life, work, and study were forcibly disrupted, and family conflicts such as husband-wife relationships and parent-child education escalated. The economic pressure and risk of unemployment caused by the shutdown of work and production prompted people to pay more attention to adjusting physical and mental health and cultivating a good lifestyle.

Ultimate Frisbee originated in the United States, while it evolved from a throwing game in which students used pie plates as props. Now it has become a sport emphasizing whole-body coordination and cooperation. It is a coeducational sport that combines the characteristics of rugby,

soccer, and basketball and requires no physical collisions (World Flying Disc Federation, 2013). The official game is mainly a seven-player game, played on a 100m×37m field, with an 18m×37m scoring area on each side of the field (as fig.1), where the offense runs and passes the Frisbee in various tactical ways, allowing teammates to score in the offensive zone. Nevertheless, the usual practice can be adjusted according to the actual conditions as long as the flat and open space can be carried out in the activity. Ultimate Frisbee, with its strong social attributes, could expand the circle of friends, makes it easy to learn to participate in the low threshold, and has a good effect on body exercise and fat burning. Furthermore, sportswear fashion to pursue trends and other characteristics make it one of the most popular sports for young people. With the implementation of normalized measures for epidemic prevention and control, from the second half of 2021 onwards, young people can be seen everywhere running and throwing Frisbees in open spaces of neighborhoods, parks, or on the playgrounds of campuses in major cities in China.

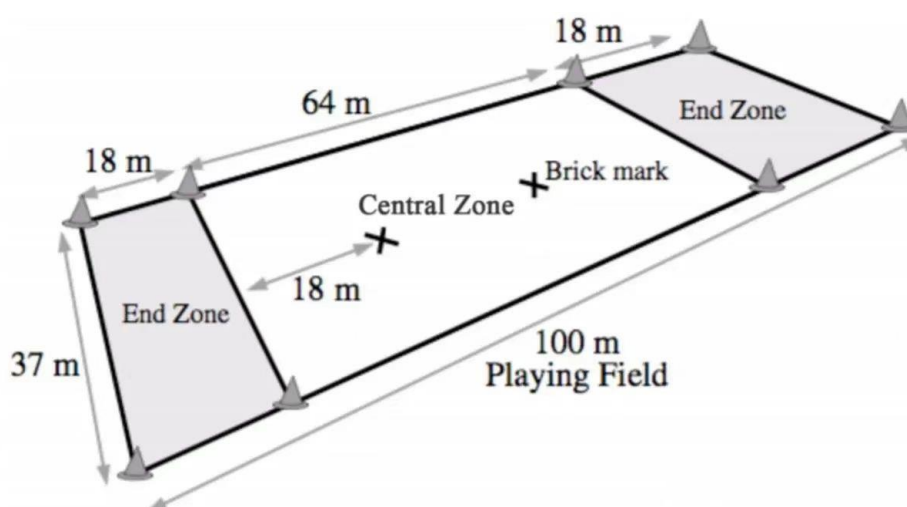


Figure 1. The official venue of Ultimate Frisbee

In order to enrich the national fitness activities around the promotion and publicity of the sport of Ultimate Frisbee, in April 2022, the Ministry of Education issued the "compulsory education curriculum program and curriculum standards (2022 version) of the notice", the Ultimate Frisbee as an emerging sport is officially included in the compulsory education curriculum. On July 7, the State General Administration of Sports issued a notice on organizing the Chinese Ultimate Frisbee league, which will be held in 2022-2023 in many places in China. Meanwhile, the Social Sports Guidance Center of the State General Administration of Sports has now included disc events in its annual tournament plan, including the National Disc Tournament, the National Junior Disc Tournament, the City Disc Tournament, and other events, as well as piloting the national disc sports referee law and conducting disc coaching training courses. This way, Ultimate Frisbee has been officially expanded from a niche sport into the public view.

2. METHODS

This study conducted face-to-face interviews with 13 Ultimate Frisbee clubs in Taiyuan and some of their members to get a preliminary understanding of the development of Ultimate Frisbee in Taiyuan and the extent to which members understand and enjoy Ultimate Frisbee.

There are 13 Ultimate Frisbee clubs in Taiyuan, Shanxi Province, in which 300 members and 18 persons in charge were randomly selected as our basis for the interview and questionnaire sample. Therefore, 318 people were included in our research. Three hundred questionnaires were randomly distributed to the members of 13 Ultimate Frisbee clubs and Ultimate players in Taiyuan by WeChat

communication application. Finally, 286 were collected, with a response rate of 95.3%, all meeting the questionnaire collection criteria.

This paper uses literature, questionnaires, interviews, mathematical and statistical analysis, and logical analysis as the following methods. The first is the literature method. According to the topic of this paper, we selected 'sports', 'sports function', 'social development', 'harmonious society', and 'sports for development' as keywords. Based on this, we searched and analyzed more than 20 relevant literature and materials through CNKI, such as 《China Sport Science》, 《Journal of Shanghai University of Sport》, 《and Chinese Journal of Sports Medicine》. Secondly, we searched foreign literature on this topic through PubMed with keywords such as 'Frisbee', 'Ultimate Frisbee', 'Normalized Epidemic Social Development', 'Sports for Development'. We found new clues through the references in these articles. Then we focused on collecting literature related to the topic. Finally, more than 30 relevant documents in Chinese and foreign languages were selected as the theoretical support for this paper.

The second is the mathematical and statistical methods. We use Excel software for further data analysis based on the above procedure. The third is the logical analysis method. In this article, we use logical reasoning to analyze the promotion effect of Ultimate Frisbee on personal physical and mental health, interpersonal communication, and the impact of Ultimate Frisbee on social, economic, and cultural development and summarize the corresponding conclusions to give suggestions.

To ensure that the questionnaire used in the study has high validity and improves the accuracy of the research results, eight experts were asked to rate the questionnaire's content and structure validity. The questionnaire was revised promptly according to the experts' opinions to eliminate weak indicators and questions irrelevant to the study and to determine the final questionnaire.

3. RESULT

The validity table is as follows

Table1. Statistical Table of Questionnaire Validity Verification

	Very good	Better	ordinary	Not good	Very bad	Total
Number of experts	4	3	1	0	0	8
Percentage	50%	37,5%	12.5%	0.00%	0.00%	100%

The results of the validity test showed that the questionnaire could reflect the content of the thesis that needs to be studied, and its validity is also high.

The reliability of the questionnaire was tested using the retest method. The two survey results' correlation coefficient (stability coefficient) was $r=0.91$, $p < 0.01$, indicating that the questionnaire is highly reliable.

4. DISCUSSION

The function of anything depends on two critical factors: its essential attribute and social needs. Therefore, the function of sports is also composed of two parts, the essential function of sports is to promote the self-improvement and comprehensive development of people and also to achieve a state of complete health in sports. The derived functions of sport are the beneficial effects and efficacy that can be played on society, which are the new needs of social development and an essential

complement to the increasingly perfected value of sport. It is constantly changing and growing with the development of society and the sport itself, such as the sport's educational, economic, cultural, and political functions (Tang, Pan, Wang, & Dai, 2008; Yang, 2021). This study focuses on the impact of Ultimate Frisbee on individual physical and mental health, interpersonal communication, social adaptability, and socioeconomic and cultural development.

4.1 The impact of Ultimate Frisbee on physical and mental health

The traditional concept of health is "no disease is health", but the modern concept of health is overall health, which is a person in good physical, mental, and social conditions.

1) Ultimate Frisbee promotes physical health

COVID-19 mainly attacks the human lungs, infecting the lungs through the respiratory tract, leading to a decline in lung function and eventually death due to breathing difficulties. Ultimate Frisbee has a strong fitness, and participants in the field carry out a variety of physical exercises, such as running, jumping, change of direction running, emergency stop, emergency start, throwing, fluttering, and other actions. These physical activities prompt the body's oxygen demand to increase to meet the body's oxygen supply, and the respiratory muscle will undoubtedly strengthen the contraction and expand lung ventilation. Based on this, the person's lung capacity increases, improving respiratory efficiency and oxygen uptake capacity. At the same time, the participants, through the practice of Ultimate Frisbee, can promote the growth and development of bones, improve bone density, and prevent osteoporosis. In addition, it also improves the body's reaction ability, enhance speed, sensitivity, endurance, coordination ability, strength and other basic physical qualities. As shown in Table 2, 66.43% of participants think the physical state is significantly improved based on a period of Ultimate Frisbee practice. Fat burning effect is good, full of vitality every day, 18.18% of people think that the physical state is improved, but not noticeable, and 15.39% of people said that the physical state is not improved, but produces fatigue low immunity. This is shows that there are differences in physical state between people. At the same time, regular and planned disc training can effectively promote people's overall physical health, enhancing body resistance and immunity. Besides, this also shows that people need to pay attention to the scientific and reasonable arrangements, use moderate and appropriate principle, and timely rest to adjust their state. Otherwise, the super-intensity of the exercise load will occur sports immunosuppression, resulting in a decline in human immunity, increasing susceptibility to disease (Qin, Zhao, Wang, & Hao, 2018).

Table2. Improvement of physical condition after participating in Ultimate Frisbee exercise

	Very Good	Better	Ordinary	Not good	Very bad	Total
Number of respondents	103	87	52	40	4	286
Percentage	36.01%	30.42%	18.18%	13.99%	1.4%	100%

2) Ultimate Frisbee sports promote human mental health

Mental health is a continuous dynamic process including psychological state and regulation ability (Hu, Wang, 2017). During the COVID-19 epidemic, the escalation of family conflicts caused by prolonged home isolation, the economic pressure brought by the shutdown and the uncertainty of facing the future seriously impacted most people's mental health. Table 3 shows that 59.8% respondents said they had anxiety, 51.4% felt lonely during the quarantine, 39.86% believed they had felt panic due to the COVID-19 epidemic, and 23.78% had experienced psychological symptoms such as mild depression, et al. Through Ultimate Frisbee, people must communicate and work together as a team in order to complete the game. They will enhance their feelings and trust in each communication and cooperation, breaking their self-imposed isolation. At the same time, during the game, participants regain self-confidence by getting rid of defense, organizing offense, and teamwork

scoring. When people get more positive emotions in the game, they would effectively relieve stress. 89.86% of the respondents said that the mental stress was relieved after Ultimate Frisbee, making the original feeling of loneliness and depression fade or even disappear (as shown in Table 4).

Table3. Psychological status statistics of respondents during the epidemic

Psychological status	Anxiety	Lonely	Panic	Depression
Number of respondents	171	147	114	68
Percentage	59.8%	51.4%	39.86%	23.78%

Table4. Improvement of psychological state after participating in Ultimate Frisbee

	Very Good	Better	Ordinary	Not good	Very bad	Total
Number of respondents	111	146	29	0	0	286
Percentage	38.81%	51.05%	10.14%	00.00%	00.00%	100%

3) Ultimate Frisbee promotes interpersonal interaction and improves social adaptability

In addition natural attributes, people also have social attributes (Yang, Yang, 2006). Good and harmonious interpersonal relationships are crucial to people's and society's development. With the development of the Internet, people use various social Apps to communicate more conveniently, and face-to-face communication has become less and less. High-rise buildings have narrowed the physical distance between people, but distanced people from their hearts, and some people do not even know who their neighbors are after living in the community for several years. The outbreak of the epidemic has made people realize the importance and necessity of human interaction again. Ultimate Frisbee as a medium, its participation threshold is very low, wherever in the park, in the field or even in the community downstairs on an open space, a sports suit, a pair of running shoes, a piece of Frisbee would quickly bring people together. In the practice process, two people to pass, teamwork, and post-game review will increase communication, even without Frisbee training base. We can get a slight sense of achievement and pleasure whenever throw or receive a disc.

Through Ultimate Frisbee, people can meet friends, join the same community, learn Ultimate Frisbee techniques and rules. Furthermore, they also share fashionable dressing, meet to participate in other activities, or show their participation process through self media, let more people pay attention to themselves and so on. Because of this, Ultimate Frisbee has become one of the most popular sports among young people. In the social software "Tik Tok China" app search Ultimate Frisbee-related topics, the total number of plays reached more than 1.35 billion times. Ultimate Frisbee clubs around the country like a spring-like are increasing. From June to September in 2022, Taiyuan City has witnessed the establishment of 13 Ultimate Frisbee clubs. Attracting participants of different ages, genders, occupations and classes, people not only improve their physical fitness and mental state in the activity, but also social skills, insights, ability to analyze and solve problems. In teamwork, participants will understand their shortcomings in time, keep a cool head at critical moments, handle every attack and defense reasonably, and fully trust their teammates. Even when encountering fouls and disputes in the game, people would consciously abide by the game's rules and respect their opponents, which would improve their abilities and social adaptability through continuous practice.

4.2 The impact of Ultimate Frisbee on social and economic development

In recent years, the development of China's sports industry has maintained a high growth rate. In 2019, the General Office of the State Council issued the "Opinions on Promoting National Fitness and Sports Consumption to Promote the High-Quality Development of Sports Industry", which put forward the strategic goal of "promoting the sports industry to become a pillar industry of the national economy". Sports have rich economic functions, and the impact of Ultimate Frisbee on social and economic development is as follows: Firstly, it would improve productivity. The participants' physical quality is significantly improved through the Ultimate Frisbee practice to adapt and withstand the higher work intensity and density. Moreover, regular Frisbee practice can well improve the participants' psychological state, relieve their mental stress, help them stabilize their emotions, which would enable them a good mindset, face difficulties without compromise, and stimulate innovation., Secondly, it would improve production efficiency. The most prominent rule of Ultimate Frisbee is that there is no referee, and teammates need to cooperate to achieve the score, and if there are fouls and disputes, both sides would coordinate to solve them. In the work, the ability to consciously comply with the rules and have a sense of cooperation and synergy could improve production efficiency. Thirdly, it would drive consumption-based economy. With the improvement of people's living standard and the improvement of residents' taste, participants have higher requirements for clothing, shoes, hats, and other equipment, which would gradually activate the consumer market. Fourthly, it would provide more employment opportunities. A fast-developing sports program will indirectly promote the development of its sporting goods products, souvenir industry, new media, teacher training and other areas of the economy. At the same time, it will absorb many employed people, such as sporting goods designers, producers, sellers, professional coaches, professional athletes, referees, teacher trainers, and others. Lastly, it would drive the new development of the sports industry. Many cities in China have already founded a specific scale of clubs. For example, there are 13 Ultimate Frisbee clubs in Taiyuan City (as shown in Table 5), with an activity fee ranging from ¥35-70. Such club would deduct the cost of venues, materials, coaching fees, and others., only by the registration fee, and most Ultimate Frisbee clubs are less profitable.

Table5. Taiyuan Ultimate Frisbee clubs September activities summary

Club Name	Number of events held	Single event fee (¥)	Cumulative number of participants	Fee (¥)	Average number of participants per session	Average revenue per session (¥)
Gotham Frisbee Club	17	39	365	14235	21.5	837.35
Taiyuan Starry Night Sports Club	6	39	46	1794	7.7	299
Girls day	4	35	37	1295	9.2	323.75
High Fly Frisbee Club	10	35	167	5845	16.7	584.5
LSL Old Handsome Sports Club	14	35	224	7840	16	560
TAI YUAN 73 Frisbee Club	10	69	114	7866	11.4	786.6
Taiyuan Top Frisbee Club	6	39	160	6240	26.6	1040
Frisbee Fly Disc Club	5	35	13	455	2.6	91
Top Frisbee Club	4	36	46	1656	11.5	414
Nice Frisbee Club	5	38	115	4370	23	874
Bingo + Frisbee Club	9	39	146	5694	16.2	632.67
TBF CLUB	13	39	246	9594	18.9	738
Taiyuan PUSH Sports Social Gathering	14	39	295	11505	21.1	821.8

However, in these 13 clubs, the organization of Frisbee activities is only a small part of their operations. Taiyuan PUSH Sports Social Gathering Club, whose primary business is a fitness studio, attracts visitors flowrate to the fitness studio by organizing Ultimate Frisbee activities while enriching the fitness options of existing members. They have also successfully converted about 20% of Ultimate Frisbee participants into fitness studio members. Bingo+ Club is a joint venture with TBF CLUB to organize events and share expenses for venues and materials. At the same time, they have formed a large community of all participants to make a community economy. This community is a large

cooperative platform where all people share resources, cooperate with the club and link up with each other. People know each other through Ultimate Frisbee activities, trained and played together, so they will inevitably have more trust with more willing to participate in activities and experience new things together. For example, the painting, the tourism and the catering members in the community would organize relevant activities after the Ultimate Frisbee activities to go to the painting studio, the restaurant dinner, which would rich leisure life. At the same time, the club organizers would also gain more profit. Some clubs hold Ultimate Frisbee activities through public welfare. They attract more people to participate in it, and live broadcast the whole process of the activity. In the process of the activity to take wonderful photos and videos, and share on the self-media account, to attract more fans to pay attention to, to achieve the purpose of taking advertising, and sharing the trend of wearing, living with goods. For the club, the business of Ultimate Frisbee has just emerged, and commercialization still needs to be mature. Therefore, there will be a long way to go to promote the sports "fly" in the future.

4.3 The influence of Ultimate Frisbee on social culture

Sport is a special kind of social culture, which is an essential means to shape the personality and social spirit of the participants (Tang, 2008). In Ultimate Frisbee, there is a spirit called "Spirit of Ultimate Frisbee ", which is condensed into the "SOTG" icon by WFDF World Ultimate Federation: Know the Rules; Avoid Body Contact; Enjoy Playing; Be Fair-minded; Communicate Respectfully. The spirit of Ultimate Frisbee is one of the core values of the sport, it is a co-ed sport and advocates "no body contact, self-referees". Moreover, this sport emphasizes fair play and sportsmanship, which means all players on the field are responsible for their actions on the field, trying to keep the game fair and just. This allows participants to understand the true meaning of the rules. Secondly, Ultimate Frisbee's slogan is "Frisbee never lands, never gives up ". Participating in Ultimate Frisbee would promote human solidarity and cooperation and the spirit of enduring hardships and difficulties, enhance the resilience of the people, value respect and cooperation, and promote the harmonious development of society.

5. CONCLUSION

Through discussion and analysis, we conclude that Ultimate Frisbee has strongly promoted participants' physical and mental health, interpersonal communication and social adaptability. Besides, in terms of socioeconomic impact, the development of Ultimate Frisbee has not only directly improved the productivity and production efficiency of participants, promoted the development of social consumption and provided more employment opportunities, but also drove the development of a series of new industries in the social economy, especially its profound impact on the development of tertiary industries. In terms of socio-cultural impact, the "spirit of Ultimate Frisbee " and the spirit of never giving up have a guiding role for members of the social community in terms of sports thinking and sports behavior, especially the spiritual power of self-worth.

A few suggestions for developing Ultimate Frisbee in China are as follows. (1). It is suggested that the mainstream media increase the publicity of Ultimate Frisbee, which would make more people see the sport of Ultimate Frisbee and develop it into one of the sports enjoyed by all people. (2). Government departments need to speed up the construction of Ultimate Frisbee organization structure, develop a scientific and perfect Ultimate Frisbee tournament system, and strongly support social forces to hold Ultimate Frisbee-related sports events to promote the rapid development of Ultimate Frisbee. (3). It has suggested that we need to introduce the world's advanced Ultimate Frisbee theory and knowledge, improve the professional and technical level of China's Ultimate Frisbee practitioners, at the same time, strengthen cooperation with the education sector, and actively promote the opening of colleges and universities, as well as primary and secondary schools ultimate disc courses, training professional Ultimate Frisbee reserve personnel. (4). We still need to strengthen the research and development, add relevant supplies including ultimate disc supplies,

trendy clothing, souvenirs and other equipments, use new media to promote and sell, and finally create an internationally influential brand of Ultimate Frisbee enterprise with Chinese characteristics.

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