

# Experimental Study of the Impact of Shadowboxing on Mental Health Status of Middle-aged and Elderly People

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**Objectives:** Ageing of population in the society has brought people increasing survival pressure. To promote the development of the harmonious society, people must implement the normal transformation of ageing of population, and improve the physical and mental health of the elderly through a variety of means. **Methods:** In the paper, the impact of shadowboxing on the physical and mental health of the elderly was analyzed, and explored through related experiments. 100 experimental samples were selected as the research object. The experimental group and control group were set up for further analysis. Experiments were conducted with special method. **Results:** In the actual research, other conditions were consistent except the shadowboxing and conventional teaching mode. **Conclusion:** Finally, it was found that shadowboxing played positive roles in promoting the mental health of middle-aged and elderly people.

**Keywords:** shadowboxing; the elderly mentality; health state

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Currently, earth-shaking changes have taken place in global population structure, and population aging degree has been constantly improved. According to the relevant department statistics of the United Nations, the elderly population will increase from 600 million to 2000 million in the first 50 years of the 21st century; from the aspect of age bracket, the number of elderly aged above 60 will surpass the number of teenagers under the age of 15. Under such background, China also faces aging of population, which results in the change of social population structure<sup>1</sup>. An ageing of population not only impacts the physical health but also mental health of many elderly people. Thus, it is advisable to analyze the currently common mental health of the elderly and adopt effective strategy policy to promote their mental health. In the paper, the impact of shadowboxing on the mental health state of the elderly was studied

through experiment<sup>2</sup>.

The current normal social population aging is the important reason of social ageing. Essentially, the current social aging is a natural phenomenon, and a kind of inevitable trend of social development. It is necessary to adopt proper measures to deal with the kind of circumstances, constantly promote the healthy development of the social aging, create the dynamic balance of population structure, enhance old people's physical and mental health development, and promote social harmony development<sup>3</sup>. Research shows that it is necessary for the elderly to do exercise in real life in addition to the normal diet and nursing. Besides, investigations indicate that various kinds of regular exercise can promote the healthy physical and mental development of the elderly. According to incomplete statistics, about 40% ones among the people older than 50 do no sports exercise; more than 50% of the ones among

the people who do sports exercise do so irregularly, fail to make reasonable planning, and achieve poor actual exercise effect<sup>4</sup>; only less than 20% choose a more common efficient sport exercise. Shadowboxing, as a sports exercise, is suitable for the current elderly. As can be seen from the historical development, shadowboxing has played many advantages in the elderly healthy exercise. As a matter of fact, the idea of the unity of heaven and man, as well as harmony with nature in shadowboxing has played bigger role in dynamic balance of social population ages<sup>5</sup>. In the paper, the influencing factors of current shadowboxing on the elderly mental health were studied through experiment, and its effectiveness was explored.

## METHODS

### Research Questions

As for the effect of current social aging, the paper analyzed the actual role of the shadowboxing at multiple levels in visiting survey way mainly so as to play the actual effect of shadowboxing. Previous experts and scholar mainly analyzed the current more common modes, but they didn't conduct intervention trial in the actual research. Therefore, their research results are not quite persuasive and can't meet the actual demand, and lacked of credibility in the actual survey. In the paper, the roles of shadowboxing exercise among the elderly were studied through experiments for half a year, and the elderly shadowboxing exercise strategy was explored, which provided decision basis to solve the population ageing. In practical research, the roles of shadowboxing exercise, as one of the more common way in old people's physical and mental health were studied, and their roles were exerted on the basis; the foundation was provided for the subsequent community health survey<sup>6</sup>.

### Research Purpose

The paper aimed to analyze the application of Shadowboxing in the mental health state of the elderly, and explore the physical and mental health of old people in some communities, discuss the effect of Shadowboxing in the mental health state of the elderly, and finally make

scientific decisions to cope with the aging of population with the survey data as the basis. The current common 24 style shadowboxing was analyzed in actual research<sup>7</sup> so as to exert its functions and verify its roles in response to the aging among the elderly.

### Related Research Factors

The paper targeted the current common 24 style shadowboxing, which is the existing simplest and most feasible and suitable fist position for the elderly. The residents aged over 50 in several communities were selected as the research object. The research objects were further screened in the actual research to ensure the research objects were free from mental and physical problems, had self-care ability in daily life, could do shadowboxing exercise by themselves, had good adaptability in actual exercise, and completed shadowboxing practice process. As for the definition of health, both physical and mental health of the research objects were identified, and then the psychological adaptation of the elderly was explored. In the process of actual survey, to ensure the consistency of the research objects in the aspect and credibility, the living state and personal health of different individuals in middle-aged and elderly research objects were considered<sup>8</sup>.

### Research Object

Experimental research was conducted to explore the influence of shadowboxing on the mental health of the middle-aged and elderly people. The residents aged over 50 living in the randomly-selected communities were regarded as the research object based on the principle of voluntary and analyzed to check whether they had physical and psychological disorder. Besides, the corresponding measurement methods were adopted to analyze their health situation. In order to ensure the accuracy, the research objects were screened. In order to ensure the credibility of research results, several exclusion standards were chosen as the basic principles for research object selection. Common standards were as follows: be able to do exercise; do shadowboxing exercise at least three times a week; do related exercise regularly. The ones who didn't meet the above conditions were excluded. In addition, the ones

with mental disorder or physical illness were also excluded; the ones suffering from serious physical diseases or chronic diseases were also not included in the research objects<sup>9</sup>.

**Grouping and Sampling Method**

The research objects randomly selected from several communities were grouped; experimental group and the control group were set up. In the actual grouping, all research objects gathered. And then, their specific basic information was thoroughly analyzed to guarantee the research objects had consistent initial situation, and ensure the fairness. The ones aged over 50 in the experimental zone were randomly selected and then their comprehensive factors such as gender, and physical or mental status were analyzed. Finally, 100 ones were selected as the research object, and divided into two groups. After identifying the two groups had a certain consistency in initial level, one was set to be control group and another one was set to be experimental group for experimental analysis<sup>10</sup>.

**Sample Identification**

The forecasted sample size was 100 people. In order to further determine the research accuracy, they were analyzed to check whether the samples met the demand of the actual experiment. Inspection standard was set to be  $\alpha = 0.05$  in the process of detection, and then the detection

performance could be set to be 0.8. The actual number of the experimental group and the control group was calculated with the calculation formula of Equation 1.

$$n1 = n2 = 2[(t_{\alpha/2} + t_{\beta})s/\delta]^2 (1)$$

After calculation, 80 ones were selected as the optimal samples in actual research. Next, the samples were analyzed by combining with the actual research. It was found that the efficiency of the final questionnaire was 80%. On the basis, the number of the actual research could be finally confirmed to be 100. Then, the 100 ones were divided into two groups, with 50 ones in each group.

**RESULTS**

**Research Situation**

All information of the research object should be complete so that they could be effectively marked in the actual research. The information included demographic data, gender, age, level of education, occupation, income, physical and mental health. Two kinds of questionnaires were set: one was question and answer of mental state, and another questionnaire was about the physical health. A total of 10 questions were set in the first questionnaire, with 1 point for each question. At the end of the survey, the corresponding health state at all levels was summed up, as shown in Table 1.

Score	Evaluation situation
≥ 8	Good cognitive function
6 – 7	Mild cognitive impairment
3 – 5	moderate cognitive impairment
0 – 2	Severe cognitive impairment

As for the self-care ability of the research objects, the related ability assessment was conducted through the offset scale. After analysis based on the actual situation, the self-care ability of the elderly was divided into five grades, with

the grade distribution shown in Table 2.

**Table 2**  
**Grade Distribution**

Score	Evaluation situation
1	Walk and maintain light work
2	Maintain most self care
3	Only limited self-care
4	Totally inactive
5	Total loss of activity

### Test Procedure

Combining the above analysis and the actual research process, the test procedure analysis, was conducted. In the process of practical analysis, the exercise habits and personal situation of the research objects were combined so as to make every effort to improve the research objects' physical and mental health through the method set by the test, and minimize the adverse impact of aging in China. The test procedure was set in combination with the questionnaires and practical situation. Besides, the related test procedure was thoroughly analyzed together with experts. On the basis, test plan was formed, and the test plan was completed according to the test procedure.

As for the test form, the research objects had training in their spare time to improve their exercise skills, and enhanced their theoretical knowledge through headphones and lecture way, so as to give full play to their subjective initiative. Test personnel mainly involved coaches and teachers who conducted the experiments. They were from the elderly community center, and shadowboxing researchers and conducted the related research. Shadowboxing researchers mainly aimed at teaching the research objects in the experimental group, while the community staff studied the research objects with traditional methods. For education and publicity, the control group and experimental group gathered, and received the same way of teaching. After setting the exercise way as the only variable, the impact of shadowboxing on the mental and physical health of the research objects was explored. Finally, they were evaluated in the same

way, and the research results were assessed.

First of all, it was the preparation of the experiment, which involved the above-mentioned teaching program planning, identification of research object. Then, on the basis, the research objects were grouped, and preparation was made for the follow-up test. All kinds of bad influencing factors for the test were eliminated so as to promote the reliability of the test result. Besides, during the training phase, experiment personnel conducted teaching by asking the research objects to watch the video. Different teaching methods were adopted for the control group and experimental group. Other conditions were kept the same expect the different teaching ways, and the disturbance term was eliminated. Moreover, the improper action of the research objects was corrected by coaches in the actual teaching to ensure that the teaching effect.

As for the phase of strengthening and ascension, after completing basic teaching, coaches improved each aiming at their own insufficiency, promoted the overall quality of the research objects, and completed a half-year training, conducted the final evaluation with the same evaluation method and evaluation standard. On the basis, the whole research process was completed.

**Result Analysis**

Ability category	Experience group	control group	t	p
A	142.33	125.12	-6.24	0.000
B	122.23	104.13	-6.63	0.000
C	98.12	83.34	-6.07	0.000
D	262.68	212.50	7.41	0.000

After finishing the experiment, the same evaluation indexes were used to evaluate the experimental group and the control group with the results shown in Table 3 (the corresponding ability factors were as follows: A: physical health part scores, B: mental health part scores, C: social health part scores, and D: health self-test score). As seen from Table 3, the overall level and the individual level of the experimental group were higher than that of the control group, showing shadowboxing exerted a certain positive role in the mental health of the middle-aged and the

elderly.

The correlation research of each health index and total scores was studied, with the results shown in Table 4. The various factors in Table 4 represent the same meaning with that in Table 3. According to Table 4, there was a corresponding positive correlation between physical health, social health and total scores in the actual research. In other words, there was a certain correlation between various influencing factors of the elderly mental health, and such kind of influence was mutual.

	Experience group			control group		
	A	B	C	A	B	C
A	1.000			1.000		
B	0.629	1.000		0.562	1.000	
C	0.445	0.534	1.000	0.496	0.628	1.000
D	0.835	0.863	0.801	0.809	0.882	0.836

**Table 5**  
**Comparison of Comprehensive Ability**

Group		mean value	t	p
1	Experience group	481.52	-4.325	0.000
	control group	617.34		
2	Experience group	314.56	-1.567	0.114
	control group	345.67		
3	Experience group	526.78	-2.956	0.003
	control group	756.12		
4	Experience group	4.101	2.765	0.007
	control group	3.903		
5	Experience group	16.734	2.465	0.023
	control group	12.345		
6	Experience group	19.224	6.883	0.000
	control group	17.348		
7	Experience group	1.246	-3.341	0.002
	control group	1.746		

1 to 7 in Table 5 represented the average reaction time, the fastest time, hand-foot crossing and exercising time, memory capacity, arm stability, concentration, and performance rotating. As can be seen from Table 5, there were significant differences between the experimental group and the control group in terms of the aspects except the fastest response time. To be specific, the experimental group had a higher ability in the above aspects than the control group, and had a better effect. Therefore, shadowboxing had a positive effect on the mental health of the middle-aged and the elderly people.

**DISCUSSION**

In the paper, the effect of Shadowboxing on the mental health of middle-aged and old people was analyzed. Besides, the related conclusions were reached in the actual research through experiment research method. The paper analyzed the actual role of the shadowboxing at multiple levels through visiting survey mainly so as to exert the actual effect of shadowboxing. Experimental research was conducted to explore the effect of shadowboxing on the mental health of the middle-aged and the elderly people. The

residents aged over 50 living in the randomly-selected communities were regarded as the research object. The experimental group and control group were set up in the study. The research objects received training in their spare time to strengthen their exercise skills, and enhanced their theoretical knowledge through headphones and lecture, so as to fully exert their subjective initiative. The research results showed that there was a corresponding positive correlation between the physical health, social health and total scores in the actual research, that is, there was a certain correlation between various influencing factors of the elderly mental health, and such kind of influence was mutual. The experimental group had a higher ability in all aspects, excluding reaction than the control group, and had significant differences and better effect in improving comprehensive ability. Therefore, shadowboxing had a positive effect on the mental health of the middle-aged and the elderly people.

**Human Subjects Approval Statement**

This paper did not include human subjects.

### Conflict of Interest Disclosure Statement

None declared.

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