

什么才是最简单，高效，易普及的
提升健康方式？

What is the simplest, most
efficient, and easily accessible
way to improve health?

摘要

1. 社会现象及其产生的研究问题

随着健康水平的提高，人们开始通过不同的方式追求更健康的生活。结果证明，有些人成功了，有些人没有。人们使用什么方法肯定会影响他们的成功或失败。一个值得研究的问题伴随而生：什么改善人们健康的方法是最好的，既最简便、高效、易普及的？

2. 假设与研究方法

饮食被认为是最好的方法。这个问题实际上将通过在线收集的数据和问卷来回答。

结果与结论

饮食确实是最简单、高效、易普及的方法。

关键词：健康、健身、饮食、保健品、简便、高效、普及性

Abstract

1. Social Phenomenon and The Research Question arose from It.

As health standards improve, people pursue a healthier life through different approaches. The result turns out that some succeed while some do not. What approach people use definitely has an influence on their success or failure. Regarding the phenomenon, a question comes up: What approach would be the best, which in this case is defined as the most simple, efficient, and available, to improve people's health?

2. Hypothesis and Research Method

Fitness is assumed to be the best approach. The question would be actually answered by data collected online, questionnaires, and interviews.

Result and Conclusion

Diet is the most simple, efficient, and available approach.

Keywords: health, fitness, diet, health product, simplicity, efficiency, availability

1. 引言 / Introduction

Health condition, one of the most important concerns of human society, has been significantly improved within the past 60 years. In China, around the 1960s, people aimed to be alive but healthy. However, the growth of the global economy drove people to expect more-better shape, longer life expectancy, and increased physical activity. However, unhealthy conditions are not well solved. A universal harmful condition would be obesity. According to CDC, from 1999 –2000 through 2017 –2018, US obesity prevalence increased from 30.5% to 42.4%. (Adult Obesity Facts) Simultaneously, the most severe obesity increased from 4.7% to 9.2%. (One in Five Young People in the UK Have Fatty Liver Disease, Study Finds)

A lot of obese people struggle to overcome it. Also, visceral fat tends to present in younger and younger people. In a study published in *The Lancet Gastroenterology & Hepatology*, one in five young people in the UK has fatty liver disease, in a study published in *The Lancet Gastroenterology & Hepatology*. They might not look fat, but fat accumulation still occurs within their body. They also run into a wall in order to become healthier. People use various approaches to become healthier, including fitness, diet, and health product. Different outcomes present. Some people lose kilograms of weight in one month, and some people's body condition worsens after years of exercise. Several reasons contribute to the failure- not enough intensity, not sustained well, or a less efficient approach. Nowadays, high working or studying pressure and a fast-tempo city lifestyle make it difficult for people to care for their own physical well-being

intensely and persistently. As a result, finding the right approach might be the most helpful solution. Here comes the question: what is the best approach for people to get healthier? Word "best" is abstract. The evaluation "best" would be taken from three dimensions: simplicity, efficiency, and availability in this research.

2. 文献综述 / Literature Review

With the progress of science and technology, there are a lot of different ways we can choose to become healthier and lose weight: dietary intervention, fitness or exercise, meditation, and gastrointestinal surgery, as well as a definition for the term "Healthy". Each method of treating overweight and each index for healthiness have their own merit and drawbacks.

To begin with, dietary intervention, the first type of weight loss method that pops in my mind when I am researching weight loss, "Dietary intervention is the cornerstone of weight loss therapy. Most of the dietary regimens proposed for weight loss focus on energy content and macronutrient composition. It is the energy content that determines the efficiency of the dietary regimens."(Fock, Kwong Ming, and Joan Khoo.). From my perspective, Dietary intervention is the most important compared to another method. It is one of the most effective and most efficient ways of controlling obesity. It is economical, no need to spend extra time and money compared to exercise and surgery. But, is there are a better solution, for example, exercise, that can loss more weight than dietary intervention?

People often say that life lies in exercise; exercise is more significant than a diet change. However, data has proven to me that I am wrong. "Unless the overall volume of aerobic ET is very high, clinically significant weight loss is unlikely to occur" (Swift, Damon L., et). " Without calorie restriction, weight loss relativelygh exercise alone is quite small, about 0.1 kg/week. A meta-analysis showed that exercise alone did not result in significant weight loss attempts, although no further weight gain was observed after 12 months."(Fock, Kwong Ming, and Joan Khoo) These research reports break the traditional concept of fitness. Exercising seems to become useless when we talk about weight loss. However, exercising can keep the body in good shape and reduce the possibility of gaining weight again. Exercise can help to burn calories, but it depends on how much time you exercise for and how hard you work for. Exercising isn't an ideal solution for weight loss or the best way to become healthy.

Maybe the best way to become healthy was not restricted to only one method; it can be a combination of several different methods, due to physical activity alone is not an effective method for achieving initial weight loss. To prove the hypothesis, searches were done for three keywords: diet, exercise, and weight. Although exercise is not practical for initial weight loss, I found out that physical activity is essential for maintaining weight loss achieved through dietary intervention. Therefore, a combination of the dietary invention with fitness and exercise is the best solution. "we also stratified the results by weight and body mass index outcome. The pooled weight loss was 1.14 kg (95% CI 0.21 to 2.07) or 0.50 kg m⁻² (95% CI 0.21 to 0.79) greater

for the diet-plus-exercise group than the diet-only group. We did not detect significant heterogeneity in either stratum. Even in studies lasting two years or longer, diet-plus-exercise interventions provided significantly greater weight loss than diet-only interventions."(Curioni, C. C., and P. M. Lourenco.) Studies have shown that people whom diet and exercise maintained their weight loss better than those who relied on diet alone. Thus, if you don't have time or money for treating obesity, you can first start with dietary intervention, change your diet in the first place, or else it has little effect on your weight. For people who have that passion in their heart and time, do not blind fitness; the efforts might work for nothing.

After acknowledging what the best way to become healthy is, I am curious that is there are specific definitions in the field of medical science. The situation become awkward when you say to others that you are healthy, but how healthy exactly are you? I know BMI is a common way and easy way of measuring how healthy you are by calculating your body mass, but I also know body mass index has some drawbacks that lead to inaccurate data, as I read further. "Differences in the BMI of relatively thin children can be largely due to fat-free mass. Although the accuracy of BMI in identifying children with excess body fatness depends on the chosen cut points, we have found that a high BMI-for-age has a moderately high (70%–80%) sensitivity and positive predictive value, along with a high specificity (95%)." (Freedman, David S., and Bettylou Sherry) The accuracy of BMI varies according to the degree of body fatness. Among relatively fat children, BMI is a good indicator, but for thin children, BMI isn't

that effective. Some groups of people, like thin children, cause misleading results. Not only certain groups of children can't trust BMI, but a large group of an adult also can't trust BMI. "The researchers analyzed how genes and smoking affect an individual's BMI, based on the genome sequence numbers of 390,000 Britons. They found that genes explained 50 percent of the difference in BMI between individuals, and self-reported smoking explained 2 percent of the difference. Because smoking causes DNA methylation, a biomarker, they found that 62 sites of methylation associated with smoking accounted for 22 percent of the difference in BMI, far more than would have been expected based on self-reports" (Amador, Carmen, et al.) Although BMI is very common and efficient and simple, it is not perfect. Nothing is perfect in this world; every method has its own drawbacks. The difference in BMI can be as high as 22 percent. People who smoke, at least in British, shouldn't have complete faith in BMI value. This brings me to find a more versatile index for the word "Healthy."

SF12 is one of the most authoritative and efficient health indexes. "The SF-12 is a multidimensional generic measure of health-related quality of life. It has become widely used in clinical trials and routine outcome assessment because of its brevity and psychometric performance" (Brazier, John E., and Jennifer Roberts). As I understand, SF12 is more versatile and has a more excellent weight value and importance. Its multimodal can replace the shortness in body mass index(BMI). SF12 has become widely utilized in clinical studies and routine outcome assessments; therefore, it is more

authoritative. Furthermore, SF12 can accomplish assessing mental health, surpassing BMI, which was limited to physical health.

To sum up what I have stated, according to a survey and test conducted by different scientists, a combination between diet change, dietary intervention, and exercise was more effective than one of them alone, especially for fitness, which is almost useless from the perspective of weight loss. Furthermore, you can know how healthy you are through an evaluation method known as SF12, where it measures your healthiness from multiple aspects. BMI has some severe drawbacks; it isn't accurate for smoking people. At the same time, there are a relatively large amount of people who smoke around the world.

3. 研究方法 / Research Methods

The topic of the group's research paper was which is the most convenient, efficient, and accessible way to improve people's health. A series of discussions were held to reach this topic. Initially, we wanted to use an experimental control method because experimental data would provide the most direct information about the effects of different health promotion methods on people, and to determine which method was convenient, efficient, and easily accessible as expected by the group, but the study needed to minimize the variables. If a control method were to be used for this study, the control group's daily routine would need to be strictly controlled to keep the variables to only the health-enhancing modalities, such as exercise, diet, and routine, as much as possible. However, because individual lifestyle is not 100% consistent, and even because of the genetic and physical influences of different bodies, various independent variables may indirectly or directly affect the findings of this study. The further discussion also revealed that the experimental control method might take much longer than the group expected and might slow down the study in the later stages. The group then wanted to use a method that would allow for large-scale data collection and analogy, so questionnaires became the group's first choice. In creating the questionnaire, the team established the direction of whom to survey, the size, and the method of distribution. In terms of the target population, the group plans to target all people, although the data collected by the group may be more high school students, but the physical quality and work schedule of secondary school students and adults are not too different, so although the data collected will be more high school students because of

the channel, but it will not affect the results of the questionnaire. In terms of questions, the group will ask "Do people know about health," "Do they take measures to become healthy," "Which is the most common way to improve health?" and "When it works for you." Finally, the group also proposed to set up interviews on special survey topics to supplement the study. Since there are always some exceptional cases in the vast data, the group will follow the instructions of the topic to interview some people who have difficulties in the way of health promotion, including but not limited to overweight, thinness, weakness, etc. By interviewing and investigating specific cases, we will find common barriers that exist between them, summarize the influencing factors and further generalize the most convenient, efficient, and popular ways to improve health. The two approaches will be conducted together, and in the end, highly reliable conclusions will be drawn based on the data collected. In addition, the team will use some other methods of interviewing, the most important of which is to interview professional nutritionists with recognized qualifications. This is because dietitians have relatively professional experience and can help the team to identify the best ways to improve the quality of health faster. Finally, the team will also search for relevant academic papers on the internet to support the findings of the group. The above is the discussion of the research methodology of the group's research report.

4. 研究分析 / Research Analysis

Our research is dedicated to proving that dietary modification is the most convenient way for people to become healthy.

4.1 Convenience of the diet itself

4.1.1 Dietary habits are easier to stick to

Dietary habits are the easiest to develop and stick to over time compared to other ways to become healthy. According to our interviews with several students around us, most of them have learned different ways to be healthy, such as exercising and adjusting their work and rest. When we interviewed one of the students whether they had set a health goal they wanted to achieve, the answer was: "Yes, I want to lose weight healthily, and then I will set myself what to eat for five days and what to do for exercise, although I don't really achieve it, at least I have set it. "Exercise (compared to diet) is more challenging to stick to. In the subsequent interview, when we asked her if she was sticking to her diet plan, she said, "I have been sticking to it as long as I have not lost weight. In the previous questionnaire, exercise was the second most preferred way to become healthy after diet. From this, we can conclude that diet as a way to become healthier is inherently convenient because the other options are more challenging to stick to for a long time.

4.1.2 The threshold for dietary modification is low

Let's continue with the example of exercise. Doing exercise requires time, space, and even some professional equipment, which inadvertently increases the threshold for people to do exercise, which in turn makes fewer people willing to become healthy through exercise. And now, in many big cities, there are people selling gym cards on the street. People around me often complain about getting a gym card but not going to the gym a few times. This situation shows that many people have the commitment to exercise and pay the right amount of money, but they don't stick to it. This also proves that the threshold for exercise is very high. On the other hand, diet modification is much less costly because it does not require much in terms of environment and time, so it is a more convenient way to become healthy. People need to eat every day, and most people have the space to make their own choices about what they eat. So a diet is not like exercise, which is added; a diet is a change in old habits. This makes dieting a much smaller threshold than other methods.

4.2. Limitations of existing methods

4.2.1 It is difficult for people to develop diet plans independently

The channels available on the market for diet modification are not perfect, which leads to the need for people to develop diet plans independently. This is almost impossible to achieve. Only less than 10% of the answers were more than two sentences, and about 75% of the answers were only rough explanations, which were more general and ambiguous, such as "eat fewer snacks," "drink more water," etc. This proves that only

a few of the respondents. This proves that only a few of the respondents have a detailed diet plan, and most of them only make dietary adjustments conceptually, without a periodic or long-term eating habit. This result provides a reasonable basis for our research and proves the necessity of inventing and popularizing our diet recording system. Furthermore, the results indicate that recording or understanding the exact detail of food ingestion requires a huge effort shows that a limited amount of people will be willing to. A convenient way of recording, therefore, will be primarily required.



The portion of people who have plans to become healthier

4.2.2 The cost of finding a dietitian to develop a plan

In addition to developing a plan on their own, people can reduce their burden by seeking professional help. But there is a cost. In one interview, the interviewee mentioned that he would go to a dietitian to give him advice on the structure of his diet, telling him "what to eat, how many times a day, and how many grams to eat each time." This solves the problem that it is difficult for him to design his own diet, but the interviewee goes on to say that "finding a responsible and professional dietitian is costly in terms of time and money." These two conditions will again cause a significant proportion of people to abandon diet modification as a way to become healthier.

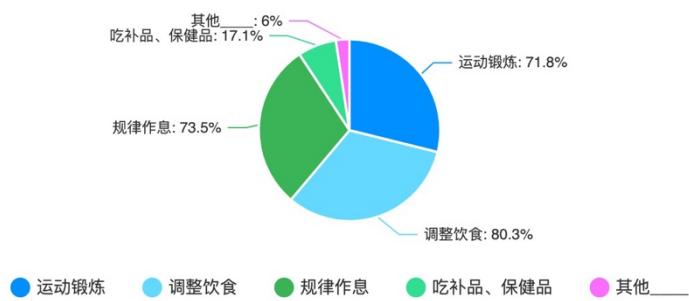
4.2.3 Low-cost methods are not mature enough

The existing diet modification methods on the market include mobile apps, which cost people very little. Some apps require membership fees, while others are entirely free. In the interview, the interviewee mentioned that the app he used "does help me to calculate calories", but "it is very inconvenient," and "I have to enter a lot of things myself, "etc. Respondents believe that the existing cell phone APPs do not actually have a very well-developed and mature system to support the operation of the whole diet, which makes it very inconvenient for users to actually use them. This provides room for improvement and innovation in our research and design.

5. 研究结论 / Conclusion

Health problems should always be one of the top concerns. Due to the hardship of maintaining body health, the best way should be evaluated and help make the process simple, efficient, and available. How do people find out the best approach? The team used questionnaires and interviews as the research method, targeting high school students. Inconsistent with our hypothesis, the result shows that diet is the best way to improve one's health in the dimensions of simplicity, efficiency, and availability.

The exercise was what has been mistakenly thought as the best approach. The outcome of a person becoming less healthy after years of exercise mentioned in the introduction can then be explained. The person might focus less on a diet than on fitness. Helping people to better control their diet to improve physical well-being would probably be the next step we do.



The way people usually use to improve their health

To rethink through the research, there are some limitations. Regarding to the target of the questionnaire, high school students, it indeed reduces the variable as much as possible, but it's too narrow to represent the larger society. If more time permitted, we

would hand the questionnaire to everybody. Through the internet, there's nowhere that can't be reached. Then the collected questionnaires would be categorized into different groups of people, facilitating further analysis. On the other hand, simply finding the best approach might not be deep enough for the goal of improving people's health. If more time permitted, we would refine the questionnaire, in which questions about more specific difficulties they encounter while improving their own health and what kind of help they need in order to be healthy are added.

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