

Final Report on the Fukuoka University Research Branding Project (Summary)

Fukusou Project: Creating an Energetic and Healthy Life

1. Introduction

The Fukusou Project aims to evolve findings from Fukuoka University's research projects into a progressive health program designed to help people gain energy needed for particular points in life, thereby translating academic "knowledge" into "value" for the public to help build a society where good health is sustainable.

2. Approach

The Faculties of Medicine, Pharmaceutical Sciences, Sports and Health Science, and Humanities participate to work in the following three research teams on the matters below.

- (1) Life with Children (pregnancy, childbirth, and early childhood)
- (2) School Adaptation and Healthy Development (later childhood and adolescence)
- (3) Social Participation Support and Active Senior Citizenship (mid-life and senior years)

3. Final Report (Summary)

Team 1: Creating Child-Rearing Abilities and Community Capabilities to Mutually Support "Life with Children"

To prevent expectant, nursing, and child-rearing mothers from becoming isolated, the team's challenge was to improve child-rearing capabilities in households and the community. The challenge also included creating communities that support each other by offering seamless support during the periods ranging from pregnancy to child-rearing. To do so, the team aimed to provide support with its "Life with Children" program by providing health support during the pregnancy, birth, postpartum, and early child-rearing periods and by striving to improve community capabilities. The team provided support so that families of expectant and nursing mothers and newborn children could get a picture of what child-rearing is like and form connections with other mothers and fathers to prevent isolation. The team also supported grandparents and communities and provided useful information on child-rearing support offered by Fukuoka City. Support for the pregnancy and postpartum periods included offering classes for expectant parents, as well as for grandparents. While support for the child-rearing period included simulation training for emergencies and handling health problems. And the team explained the role of pediatric family doctors and home-care services in the event of a health problem. Since many parents work, it was also offered to nursery teachers (who have deep connections with family households) so that they can support child-rearing guardians.

Team 2: School Adaptation: Social Skill Training in Elementary Schools

This longitudinal study involved approximately 150 elementary school students over an extended period of three years between the 4th and 6th grades. Working with homeroom teachers, the team conducted continuous social skill training (SST) on a class-to-class basis

five to six times a year. While holding SST sessions with each class over three years, the team also assessed changes in the children's social skills and self-esteem. Observations were made based on the children's reflection of SST and interviews with homeroom teachers. Through this research, the team examined the relationship between social skills and self-esteem/school adaptation, the significance of holding SST for children in the pre-adolescence development stage, and the effects of coordinating between university and school settings.

Team 2: Physical Education (PE) Support: Initiatives toward Effectively Using New Physical Fitness Tests and Increasing the Quality of Physical Education and Sports in Schools

FUKUSOU Project Team 2-2 conducted research activities over the past five years based on the following themes: 1) supporting elementary school classes (soccer, swimming, and recreation), 2) measuring physical fitness (conducting measurements, teaching measurement methods, and analyzing data), and 3) popularizing, researching, and conducting coordination training. As a result, the team was able to obtain a wide range of research findings through activities, such as providing continuous intervention support to elementary school PE classes in Fukuoka Prefecture, holding training for teachers, and analyzing and outsourcing data obtained through joint research. Going forward, the team hopes to examine and recommend PE classes that fit children's physical fitness and learning capabilities, as skills grow increasingly polarized in elementary school PE classes. The team also hopes to continuously offer regular training opportunities to teachers and to contribute to improving their teaching skills.

Team 3: Health Promotion: Using Health Tourism to Support Health Promotion for Citizens

Over half of all overall deaths in Japan are caused by cancer, heart disease, and cerebrovascular disease. To reduce such deaths, it is important to prevent lifestyle diseases as well as conditions that contribute to lifestyle diseases, such as obesity and metabolic syndrome. The importance and effectiveness of exercise to improve health is widely known. However, it would be difficult to claim that many people know what sort of exercise they should do. The Health Tourism Program proposed by this research project was a program that looks at things from the perspective of the participants. The program offered evidence-based exercises and managed meals adopting Slow Jogging, which the team has built up significant data on, and it imparted such knowledge and know-how to participants in short training camps and encouraged behavior changes by setting up a self-management period. The research report describes how regular citizens, as well as runners, were successful in not only losing weight but also improving stamina by participating in the Health Tourism Program. Due to COVID-19, it has been extremely difficult to conduct any research that involves people. The results of this program, therefore, comprised fewer people than anticipated. Nevertheless, with COVID-19 limiting the amount of physical exercise people get, the team hopes this program can offer a way to resolve the issue and mitigate the

negative effects that limited exercise has on the body.

Team 3: Social Activity Support: Developing Projects Providing Broad Support for Seniors through Industry-Academia-Government Regional Collaboration

The purpose of this research was to develop and evaluate a training program to improve communication skills (hereafter referred to as the “Training Program”) to build a system of support for seniors in the region through industry-academia-government collaborations. Furthermore, the program encouraged corporate employees who participated in the program to consider what social contributions they can make to seniors in the region.

The Training Program included 120 corporate employees and was held in 2016 and 2017. Evaluations were collected from the sessions held. Looking at the monthly scores of all questions on the communication self-evaluation form, February had the lowest with 3.49 points. However, the numbers rose to 3.87 points in April ($P < 0.05$), 3.89 points in June ($P < 0.05$), and 3.88 points in July ($P < 0.05$). Furthermore, egogram (Tokyo University Egogram II) evaluations were held before and after an intervention. For those in the intervention, adult ego rose significantly from 8.8 points before the intervention to 10.3 points after. For those not in the intervention, the scores were unchanged, with 10.5 points before and 10.5 points after. This indicates the effectiveness of the Training Program. In addition, connections created with seniors and the City Council of Social Welfare allowed the team to expand activities into other efforts, such as preventative care for seniors, disaster prevention, and disaster management.

Team 3: Examination of Scientific Information for the Purpose of Utilizing Herbal and Chinese Food Therapy

Throughout history, humans have consumed what exists in nature, such as plants and animals, and used that which produces strong effects on the body as medicine. From that starting point, Chinese medicine developed into herbal medicine, which has since been used in a traditional manner. The mechanisms of these types of medicine are not clear in terms of western medical science, and their effects on illnesses in our modern society, where more people live longer, likewise remain unclear. Chinese food therapy, which uses foods based on traditional Chinese medical theories, is a treatment for pre-symptomatic illnesses. However, the therapeutic effects of food are not widely understood in present-day Japan, where western medical thinking is prevalent. Therefore, by searching for western medical information that supports the effects of herbal medicine and Chinese food therapy, the research team sought to promote their effective uses. The research revealed that the herbal medicine *hachimi-jio-gan* was effective in preventing cognitive decline in senescence-accelerated mice and influenced microglia in the brain. In addition, the team searched research papers for western medical information and information on the therapeutic effects of the foods offered at breakfast during the Health Tourism monitoring tour. The participants learned the benefits of the foods for maintaining good health. The team hopes to continue

providing information going forward so that herbal medicine and Chinese food therapy can be effectively utilized to maintain good health.

4. Future Use and Expansion of Project Results

Team 1: Creating Child-Rearing Abilities and Community Capabilities to Mutually Support “Life with Children”

The team will use its intellectual property and teaching materials on health support during the pregnancy, birth, postpartum, and early child-rearing periods to further expand its collaboration with the Fukuoka University Faculty of Medicine and Fukuoka City.

Team 2: School Adaptation: Social Skill Training in Elementary Schools

The team had planned to hold SST program workshops for elementary school faculties in Fukuoka Prefecture, but that has not happened due to the spread of COVID-19. Going forward, it will be necessary to hold workshops for teachers and school counselors to convey the knowledge that the team gained through the program to those working in school settings.

Team 2: Initiatives toward Effectively Using New Physical Fitness Tests and Increasing the Quality of Physical Education and Sports in Schools

Below are the issues that the team discovered during the past five years of activities and the outlook for the future:

Currently, PE classes in elementary schools are seeing growing polarization among the children. Namely, between those who like and excel at sports and those who do not (are not very good at it). The team believes it is necessary to further discuss how to create and propose classes for both types of children that are designed to fit their individual levels of physical fitness, exercise skills, and learning capabilities.

Furthermore, since 2020, COVID-19 has become a worldwide threat that has made it difficult to continue holding in-person interventions and teaching sessions at elementary schools as well as training sessions for faculties. This has raised the obvious need to flexibly adapt to the challenges posed by COVID-19. That includes utilizing ICT tools to hold teaching sessions online and preparing alternative plans, such as online courses using Zoom or other communication software.

Additionally, it is also necessary to continue widely disseminating the numerous practical research results that were obtained through the activities of FUKUSOU Project Research Team 2-2 to the world. This can be done through reports in the media and academic research papers, as well as at academic conferences.

Team 3: Health Promotion: Using Health Tourism to Support Health Promotion for Citizens

The Health Tourism program offered a short-term training camp using Slow Jogging. With evidence-based exercises and managed meals, participants were able to not only lose weight but also improve stamina and alleviate lifestyle diseases, enabling the team to build

new evidence. The team believes introducing this program to government bodies and companies will contribute to promoting greater health among city and prefectural residents, as well as corporate employees. Not only that, the program will vitalize regional communities by integrating health promotion with tourism resources, such as food.

The program can be offered and developed as a package — participants are offered health improvements guaranteed by science and with the satisfaction of tourism, while program organizers are offered opportunities to vitalize their regional economies through employment and by promoting tourism, food, etc.

Team 3: Social Activity Support: Developing Projects Providing Broad Support for Seniors through Industry-Academia-Government Regional Collaboration

The collaborative project with companies to offer care support to seniors was carried out from 2016 to 2018. The research team had been working with industry, academia, and government bodies to hold meetings on the possibility of using meet-and-greet salons to reach out to and visit seniors living alone. However, when COVID-19 broke out in 2020, the team was forced to cease activities and had no choice but to cancel plans. In between declarations of emergency, companies managed to continue providing support to seniors, with COVID-19 prevention measures in place.

Past interviews with seniors also revealed that they were worried about disasters. The team, therefore, discussed the possibility of corporate employees contributing to regional disaster management. Going forward, the team anticipates creating a system where corporate employees, government offices, and universities work together on disaster prevention and provide support when disasters occur.

Furthermore, the team worked with the Fukuoka City Council of Social Welfare to jointly develop an app called “Connected Through a Distance” in AY2021. The team is currently conducting verification tests to see whether tablets can be used to connect online with seniors in poor health living alone. Tests are currently being conducted with around 10 people. The Connected Through a Distance app for tablets is easy to use since it was designed for seniors, so they are interested in it, and their hesitation toward technology is fading. Going forward, the team hopes to get companies to use the Connected Through a Distance app as well. In anticipation of the upcoming age of living with COVID-19, the team hopes to proceed by keeping open the possibility of connecting with seniors online through a distance.

The team was able to verify the effectiveness of the training program it developed. They also had plans to expand it further and hold the program at the Urban Renaissance Agency and with other gas and utility companies. Although it was unable to do so due to COVID-19, when the pandemic calms down, the team hopes to continue by considering methods such as online formats.

Team 3: Examination of Scientific Information for the Purpose of Utilizing Herbal and Chinese Food Therapies

A. Basic research on the effects of herbal medicine on brain function

The team found that *hachimi-jio-gan* was effective in preventing cognitive decline in senescence-accelerated mice. The team hopes to share this information by publishing its findings in a research paper so that it can be used as supplementary information for clinical research.

B. Additional scientific information on foods used in Chinese food therapy

Based on the concept of *shindo fuji* (meaning “the body and environment are one”), it is said that eating local foods is good for the body. That leads one to believe that putting locally produced foods on the table (as opposed to foods that come from other regions, such as frozen foods) may be a way to prevent illness. The team plans to continue activities with a focus on summarizing the effects of Chinese food therapy as well as the western medical effects of locally produced foods and publish the information on the website.