



Approach for Communication Design for Motivation to Health Behavior

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Abstract. It is well known that the implementation of physical activity/exercise is extremely important in preventing diseases and maintaining and promoting physical and psychological health. Therefore, we thought to realize a communication design that integrates medical care and communication and makes people actively want to behave, or behave unconsciously, so that they will become healthy. “AD-MED” is a new academic system aiming at solving various medical problems from the viewpoint of consumers by studying “communication” that realizes Behavior Change of people by incorporating an advertising viewpoint that is easy to understand and that affects people, such as design and copywriting. As part of this, the authors carried out the “Shoes Want to Walk” tour. This is an effort to realize enjoyment in the health behavior “walking” enjoyment by applying gimmicks on the walking path and moving forward while clearing them. As a result, it was found that quizzes and mail instructions during walking induced pleasure, but that alone was insufficient, and further motivational elements were needed.

Keywords: Communication design · Health behavior · Behavior modification

1 Introduction

It is well known that the implementation of physical activity/exercise is extremely important in preventing diseases and maintaining and promoting physical and psychological health. It is meaningful for individuals to voluntarily and continuously engage in health maintenance activities not only for their own good but also for society as a whole. It is impossible for people who are indifferent to health behaviors to suddenly perform health actions unless there is a strong impact. Therefore, behavioral science is cited as a prior study. Behavioral science is the science that studies human behavior scientifically and elucidates its rules. Attempts are also being made in the “Mibyuu” to maintain a non-sick condition, but effective measures have yet to be realized. This is a concept to prevent lifestyle conversion and to prevent it in advance before being violated by serious diseases. In the medical system so far, there has been a premise that “it becomes the target of intervention for the first time in the midst of illness.” There are many studies on the treatment of disease itself, but there is not much

research activity aimed at urging improvement of lifestyle of the consumer for prevention. Therefore, we thought to realize a communication design that integrates medical care and communication and makes people actively want to behave, or behave unconsciously, so that they become healthy. We are working on “AD-MED [1],” which naturally motivates health behavior while incorporating an advertisement viewpoint into the communication design method. We conducted a walking tour that utilized “Shoes that want to walk” as an effort to be carried out while enjoying the health behavior of “walking.” In this paper, we introduce our preceding efforts of “AD-MED” and show the contents and results of the “Shoes that want to walk” tour.

2 Preceding Efforts for Health Behavior

Conventional medical research has aimed to establish a coping method (treatment) for diseases and symptoms. Meanwhile, nowadays, entities dealing with medical and health information are rapidly shifting to the general public, and the importance of activities to communicate with people before the disease, so to speak—the so-called lifestyle—is increasing.

To change people’s lifestyle, it is necessary to change their behavior. In addition, to persistently induce people’s health behavior, it is important to design measures based on human characteristics. Therefore, we focused on the concept of “advertisement.” People’s behavior is often decided based on sensibility/instantaneous judgment rather than rational judgment. To that end, it is important to communicate in accordance with various target attributes from the perspective of ordinary people in sustainable induction of people’s health behavior. We thought that the points of policy design accumulated empirically in the advertising industry provided an extremely effective viewpoint even for the purpose of actually guiding people to health. In other words, advertisement was aimed at bringing attractive messages and visuals to actual actions. When people see and listen to them, they evoke the spontaneous feeling of “Want to do ~.” For example, it can be thought that applying this to “lifestyle” and considering “how to change lifestyle habits” should be a clue for a solution.

“AD-MED” is a new academic system aimed at solving various medical problems from the viewpoint of consumers by studying “communication” that realizes Behavior Change of people living by incorporating an advertising viewpoint that is easy to understand and that affects people, such as design and copywriting. In other words, it is a design system that naturally produces healthy behavior from the viewpoint of the consumer by trying “communication,” making use of the advertisement’s creativity.

Until now, in collaboration with municipalities, mainly in Yokohama City, various social experiment-type projects and product development in parallel with several related companies have been conducted. Some specific cases from idea of AD-MED are below.

(1) Kokoromachi Project

The waiting time at the hospital is long and boring. “Have a fun time at the hospital so that it will soon pass away.” This is a project born from such thought. In collaboration with young creators of the design office aiming to change the time spent in the hospital

to “Kokoromachi Time [2],” 5 projects involving space (Fig. 1), graphic, and web design were conducted.

Also, in this project, a questionnaire was conducted including general question items on hospitals. Figure 2 shows the evaluation of this project (even if you choose what you think is good). This project was also carried out from December 10 to 26, 2018, by changing the content (plans) (at Yokohama City University Hospital 2F lobby).

(2) Stairs that you want to climb

In response to a request from the Yokohama City Health and Welfare Bureau, we conducted a health staircase project to encourage daily light exercise by choosing the stairs from January 20 to March in 2015. In this project, by changing from the conventional viewpoint of serious health information presentation, and decorating like an advertisement, a mechanism to climb the stairs while enjoying it was constructed (Fig. 3). Since the installation station was Kanazawa Hakkei Station of Keihin Electric Railway Company, we adopted a design that took advantage of the location near Hakkeijima Sea Paradise and increased the affinity with the place and the mood. As a result, more than 20% (Total 4,000 people/month) selected the staircase rather than the escalator.

(3) ALERT PANTS

In collaboration with the Yokohama City corporate health insurance association and others, we developed “ALERT PANTS” (Fig. 4), a product that is beneficial to the health promotion of workers working for SMEs. These pants can “manage health every day only” with the function of changing the color when the waist perimeter exceeds 85 cm. It is a product that promotes dieting in users by alerting the user to metabolic changes. They become yellow, which is an attention-drawing color.

(4) Reduced-salt project

Overdose of salt, which is common in Japan, hurts the blood vessels and leads to stroke and heart disease. Based on this background, we carried out a salt-reduction experiment at a company employee cafeteria with the aim of being conscious of the amount of salt consumed in everyday living. Utilizing various touchpoints on the flow lines of people in the dining room, we made attractive awareness items that bring out changes in eating behavior using posters (Fig. 5), POP, and so on. As a result, salt intake per day was reduced by 10% or more.

In addition to these, as an example of achieving behavior change of consumers through introduction of measures to the community, there is the “Smile Matsuyama Project,” which realized the health score of residents on the application platform of the area.

In this way, behavior patterns are influenced by daily living spaces through design at contact points with various surrounding environments in everyday spaces. By extrapolating these concepts and conducting experiments extensively, we believe that we can cover not only information design but also products, infrastructure/space design, education, and so on as well.



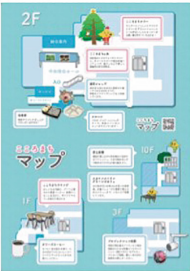
Kokoromachair
Art photo on the back of the chair. A photo gallery that can be healed and enjoyed just by sitting.



Kokoromachi Tree
Patient-participating art Christmas tree created with stickers and messages



Kokoromachi Lounge
Refurbished on the 1st floor interior with interior decorating the forest, more relaxing space



Kokoromachi Map
Brochure of map form for introduction of this project



Kokoromachi Web
Dedicated information linked with "Kokoromachi Map" on dedicated website

Fig. 1. Kokoromachi project

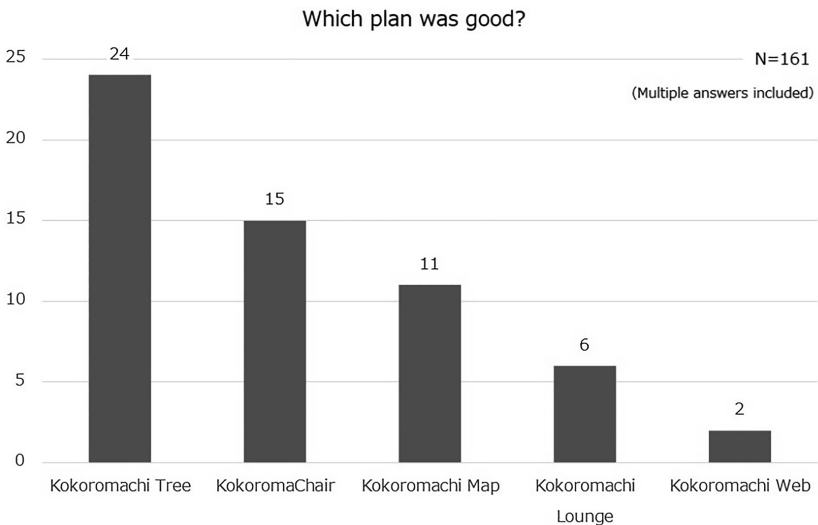


Fig. 2. Questionnaire result of Kokoromachi project

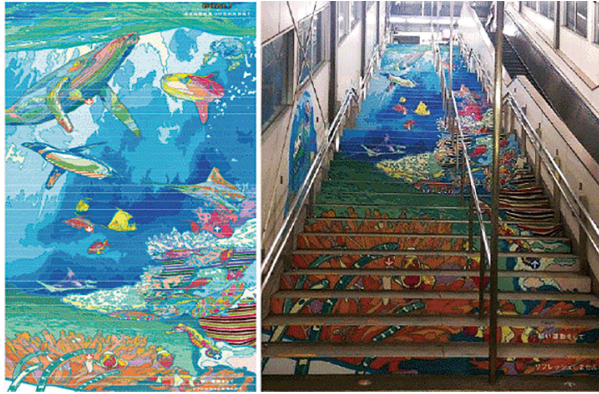


Fig. 3. Stairs that you want to climb



Fig. 4. ALERT PANTS

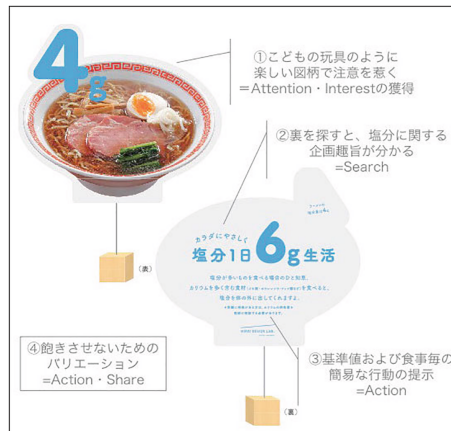


Fig. 5. Poster of reduced salt-induction package

3 “Shoes that Want to Walk” Tour

The “Shoes that want to walk” tour is an attempt to promote “walking,” which is a healthy behavior, by setting incentives to “want to walk” with one project of AD-MED. This chapter shows the method and results of this tour.

3.1 Method

This tour was held in a building inside the Yokohama City University Kanazawa Hakkei Campus on February 13, 2018 (Fig. 6).

Nineteen men and women in their 20s to 40s participated. Some groups of 3 to 4 people were formed and took a group tour. One group had a tablet for receiving emails as necessary during the tour. In addition, the RFID for this tour was pasted one of the shoes in the group (Fig. 7).

Regarding participants in this effort, after enough information was given regarding the purpose and expected effect of the study, the presence or absence of disadvantage incurred by the participants, protection of privacy, and so on, the participants gave written consent. Only those studied are subject to research. A rough circling story is shown below.

1. Departure
 - On the tablet, participants receive an instruction email for the first checkpoint.
2. Checkpoint passing
 - Shoes (RFID) are near the installed receiver (Figs. 8 and 9).
 - Participants receive an email with a quiz (instructions on how to solve) on the tablet.
3. Search the panel (correct answer of the quiz) while climbing the stairs (Fig. 10)
 - On the tablet, participants receive an instruction email for the first checkpoint.
4. Pass through the next checkpoint
 - Again, participants bring the RFID affixed to the shoes close to the receiver.
 - Participants receive an instruction email (code to be solved after this) on the tablet.
5. (Even after this, they move around the building sequentially, solving quizzes and following commands.)
6. Goal

As an accent on the way, we also set up an exhibition (experience) section of the new technology¹ (Fig. 11).

¹ A mirror display system “Mirroge” that is compatible with AGC’s bright mirror image of the same level as ordinary mirrors and high visibility quality. Provide a new expression by Augmented reality.

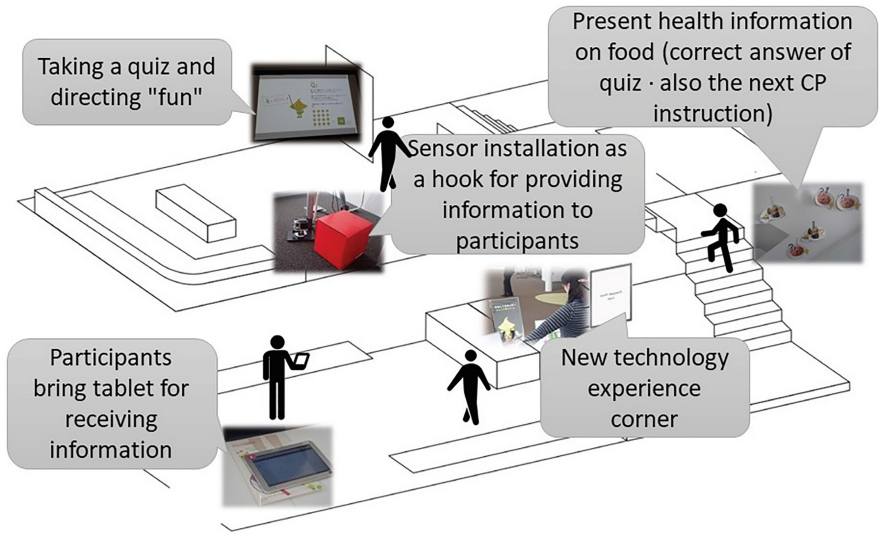


Fig. 6. Overall image of “Shoes that want to walk” tour



Fig. 7. RFID attached to shoe

3.2 Result

We conducted a questionnaire to let participants of the tour described in the previous section give their impressions and so on later. A Google Form was used to present actual question items and was the mechanism of data collection. As a result, 14 out of 19 participants responded.

Below, the results are shown with 14 people as a population.

First, sensuous (participant’s own subjective) time and fatigue are shown. As shown in the upper graph of Fig. 12, in response to the question “How long did you feel like walking,” more than half of the participants answered, “30 min.” This is a value close to the real walking time on the actual tour (of course, the required time is different for each group). In addition, it seems that most of the respondents did not feel

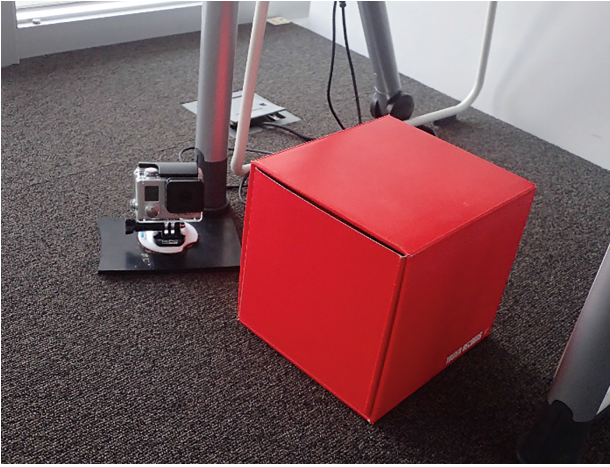


Fig. 8. RFID receiver



Fig. 9. The shoe (RFID) is approaching to the receiver

the required time was long or short (middle graph in Fig. 12), and most of the respondents did not feel fatigue, as shown in the lower graph in Fig. 12. Prior to the tour, we were hoping that “the sensory time would be shorter than the actual time (i.e., I walked better than I thought/I did not get tired),” but, as expected, no results were obtained. On the other hand, we also asked about participants’ usual exercise frequency, but this also did not relate to sensory time and feeling of fatigue.

Additionally, “To advance while doing a quiz,” “To go forward while receiving instructions with e-mail,” “To act together with group (multiple people),” and “Interaction with Yotchy²” were cited in response to the question “What kind of place was fun?” (Fig. 13).

² Character of Yokohama City University.



Fig. 10. Panels attached to the walls of the stairs



Fig. 11. Technology exhibition (Experience) corner

For these reasons, factors such as “taking quizzes” and “while receiving instructions via email” that were incorporated into this tour may be factors that add pleasure to walking, which is about 30 min long. Since fatigue was not a major factor, it can be said that this attempt was generally good. However, further motivation is still needed before reaching the stage of having the impression “I walked better/than I thought/I did not get tired” (it got the expected result).

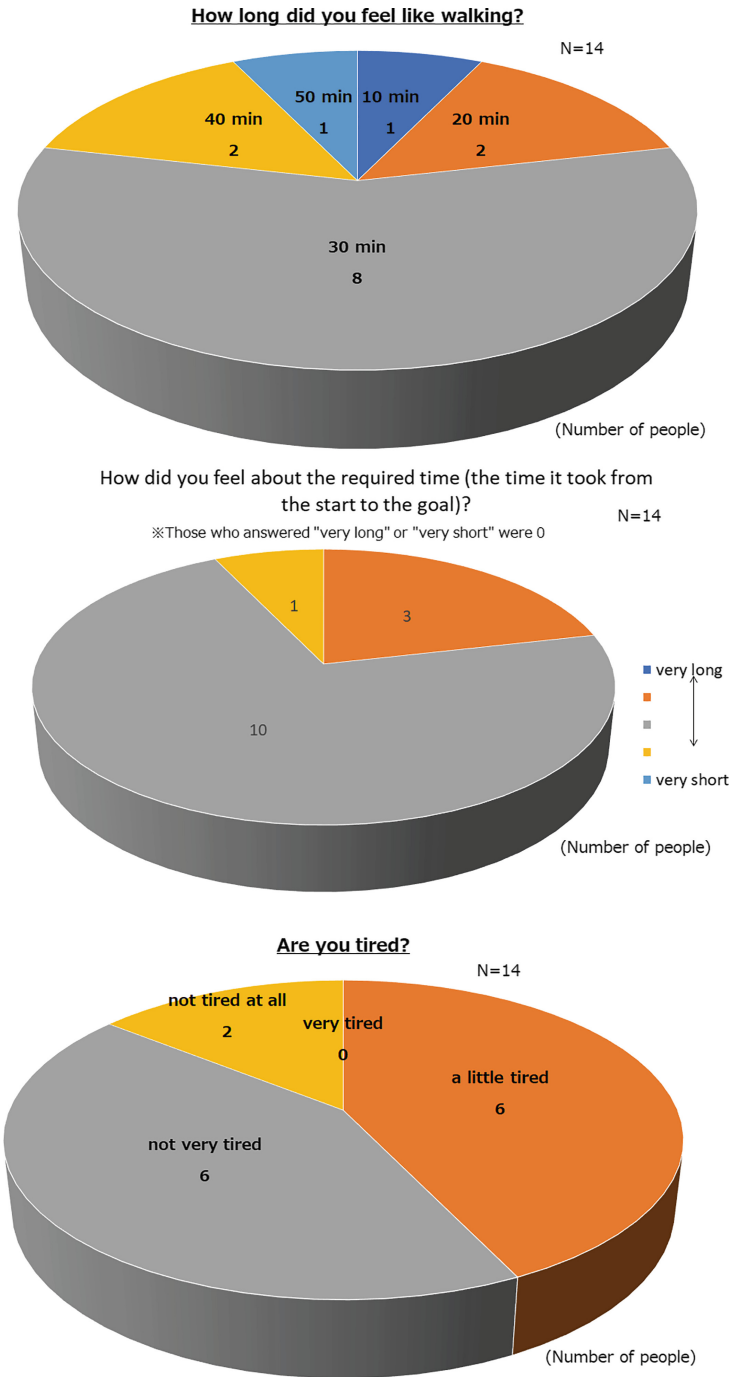


Fig. 12. Results on sensory time and fatigue

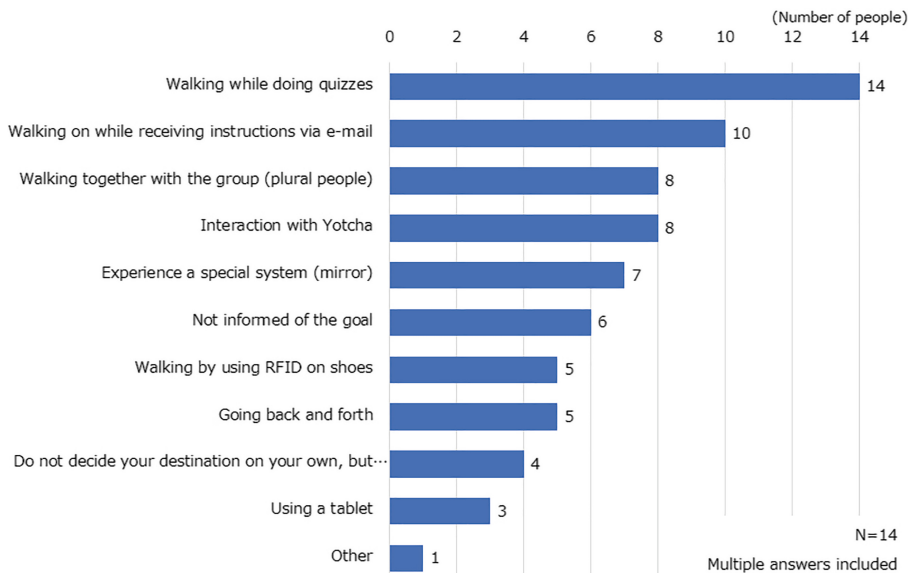


Fig. 13. Results on fun things

4 Conclusion

We have studied “communication” that realizes behavior changes in how people live by incorporating advertising viewpoints that are easy to understand, such as design and copywriting, which affect people. Various studies are conducted from the viewpoint of consumers, and we are working on “AD-MED,” which is a new academic system aimed at solving medical problems. For the prevention and treatment of many chronic diseases, including lifestyle diseases, it is important to take and maintain actions that people regard as good for health. In addition, we must correct behavior that is considered bad for health and maintain that as well. Changing and maintaining both will lead to health. As part of that, we took a tour of “shoes that wanted to walk,” traveling through the buildings on the university campus. This is an effort to realize a healthy behavior of walking by enjoying while applying some gimmicks in the walking path and progressing while clearing them. As a result, it was found that quizzes and email instructions during walking induced pleasure in walking, but that alone was insufficient, and motivational elements were further needed. This is a one-shot initiative, but the original behavioral change, as described above, “to transform and maintain behavior” is important. Factors such as “enjoyment,” “familiarity,” and “succession” are indispensable for behavior change and its sustenance.

In the future, while incorporating advertising viewpoints such as art, design, copywriting, and so on as “communication,” designing personal living environments, items, services, and so on from a more human perspective and proceeding with the verification of its effect by doing so, we will pursue communication and design to promote health behavior.

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