Title	Video design for changing attitudes towards food choices
Sub Title	
Author	Peker, Hazar Gizem Waldman, Matthew
Publisher	慶應義塾大学大学院メディアデザイン研究科
Publication year	2019
Jtitle	
JaLC DOI	
Abstract	
Notes	修士学位論文. 2019年度メディアデザイン学 第741号
Genre	Thesis or Dissertation
URL	https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=KO40001001-00002019-0741

Master's Thesis
Academic Year 2019

Video Design for Changing Attitudes towards Food Choices

Keio University
Graduate School of Media Design

Hazar Gizem Peker

A Master's Thesis
submitted to Keio University Graduate School of Media Design
in partial fulfillment of the requirements for the degree of
Master of Media Design

Hazar Gizem Peker

Master's Thesis Advisory Committee:

      Professor Matthew Waldman   (Main Research Supervisor)

      Professor Keiko Okawa   (Sub Research Supervisor)

Master's Thesis Review Committee:

      Professor Matthew Waldman   (Chair)

      Professor Keiko Okawa   (Co-Reviewer)

      Professor Nanako Ishido   (Co-Reviewer)

Abstract of Master's Thesis of Academic Year 2019

Video Design for Changing Attitudes towards Food Choices

Category: Design Research

Summary

Our food choices define our future by effecting our health and environment. Many social activists focus on saving animals and environment by different ways. Our study focuses on reducing beef consumption. We designed our study based on three different scenarios which show three different ways of beef consumption. We used video methods to affect human's awareness and change people's mind.

Our first video focuses on the health effect of beef consumption. Beef consumption leads important side effects on human health, and we aim to create awareness about these side effects by reducing beef consumption.

The second scenario aims to decrease beef consumption by showing its effects on environment. Production of beef products need huge environmental resources and releases harmful gas emissions to the environment. Saving water is another keystone, since consumption of beef products needs a lot of water resources. Our second video focuses on the environmental effects of beef products, and aims to create awareness,and decreases its production and consumption.

Our last topic is about the animal welfare. We aim to create empathy of sacrificing animals for our food intake and pleasures. We also measure that effect of that kind of approach. We want the society to become more aware about animal welfare and how it reduces people's beef consumption.

Keywords:

Choice, People's Thoughts about Beef Related Products, Alternative Sources of Food Products, Test Design, Video Effects on Habit Change, Beef Consumption, Perspective Change, Impacts of Human Diet, Beef Consumption and Human Health, Colon Cancer and Beef, Beef Consumption and Environmental Effect, Beef Consumption and Animal Welfare, Human's Habit Forming Tools, Alternative Beef Products, Print Media or Video, User-informed Intervention, Educational Videos, Warning Videos/Ads, Reducing Beef and Dairy Consumption, Less Animals and Veganism

Keio University Graduate School of Media Design

Hazar Gizem Peker

Contents

List of Figures

List of Tables

Acknowledgements

I want to begin by thanking my main advisor, Matthew Waldman, amazing professor and designer offering me great perspectives and commentary, pushing me to reach my full potential, encouraging me to along the journey with a continuous support all the time. I would also like to thank my sub-supervisor professor, Keiko Okawa. She helped to think through my project concept and research more critically and systematically.

I would like to acknowledge and thank my external advisor, Paul Nussbaum, an experienced product manager and professor at ECPI University in Virginia. I have learned an enormous amount from him and I truly thank him for his great, last moment advice and necessary resource that I needed.

Professors from the KMD (Keio Media Design) and the Global Innovation Design program that I studied under my master degree, have given me tremendous support to help me complete this research. Thank you, also to the many other designers and researchers who spoke to me about my project.

At the same time, I must also thank all of my wonderful family members. Without their support, I couldn't able to get my master degree. Especially, my brother (Erman Peker) and my mother (Ender Peker), I cannot thank to them enough for their unconditional love, care, encouragement, patient and being so supportive to me.

And last but not least: I am lucky enough to have a boyfriend (Fatih Cinar) for being such wonderful person always being there and listening to me and helping me through the challenging and long process. Without his support this thesis would not have been possible. His support and thoughts, provided researches and articles, his feedback always inspired me and gave me imperative remarks that shaped my thesis.

Chapter 1
Introduction

This thesis focuses on beef consumption's effects and which one of them has the major impact on changing people's perspective. This study suggests that an emphasis on the beef consumption on human health, animal welfare and environment and how to change the participants' perspective about decreasing beef consumption.

Human health is our first issue that we are focusing on. We inspired from previous studies which showed and proved harmful effects of the beef consumption on human body by different ways.

Beef is considered the source of many nutrients such as valuable proteins, iron, zinc and some important vitamins. Beside its ingredients, very recent study suggests that the increasing consumption of red meat has many harmful effects on human health. When we look inside the meat consumption, we see that in many researches the harmful type of meat is mostly processed forms such as cold cuts and sausages. Scientists started to work increase in awareness, and they concluded that beef mainly affects gastrointestinal tract of patients, and lead to colon cancer [1]. Beef consumption is high in developed countries, and it is becoming very serious problem for human health.

Environmental effect of beef consumption is our second topic that we focused on. One of the main concerns that we inspired is avoiding beef might be 'single biggest way' to save the Earth. Scientists have started to focus on their researches on meat consumption and its side effects on environment. One research illustrated that giving up meat consumption saved the farmland by reducing more than 70% which was equal to US and Africa combined.

Beef consumption just provides 18% of calories and nearly 40% of protein, it uses the vast majority of farm areas, and creates more than 65% of agriculture's greenhouse gas emissions. The researchers also showed that even the very lowest

impact of beef consumption still lead very much harm to environment [2].

Lastly, we focused on the topic of animal welfare. To reduce beef consumption we aimed to increase the empathy to animals in society. We aimed to create awareness about animal welfare; by doing that to decrease the beef consumption on society.

Video method has been used in this study to change people's mind and it is easy way to affect the society and huge populations can easily be evaluated.

Beef consumption effects not only environment and human health, but also animal welfare. There is also another perspective of consuming beef products which is called "animal welfare". Animal welfare contains many things such as how animals are raised, fed, and cared for. Animal welfare is becoming more popular nowadays, even brands are using this when they sell their products, and differentiate themselves from other brand. Consuming beef products widely brings problems together, like keeping animals in restricted areas and killing them.

Video method has been used in this study to change people's mind and it is easy way to affect the society and huge populations can easily be evaluated.

All in all, the main idea is about modification of health behaviours can save the environment and prevent many important health issues. All kind of educational efforts that aim to promote healthy behaviors have excellent effect not only a human's overall well-being but also the society's wellness.

1.1. Problem Statement and Significance of Study

Food sustainability is necessary for our long-term survival on this planet, but today's world is facing with several environmental issues at the same time. Many organizations, countries and nations have already thought and found solutions and alternative resources but have you ever thought that unconscious food production already causes great damage to the environment? According to WRI (the World Resources Institute) report, humankind will need more than 50 percent of more food by 2050, but greenhouse gas emissions from agriculture will have to fall by two-thirds at the same time. [3] A big change in farming industry is required to avoid destroying Earth's ability to feed its population. Furthermore, animal-based foods are considerably used more as a food resource than plant-based foods

and they are a significant contributor of increasing greenhouse gas emissions responsible for human-induced climate change. [4] Animal-based foods has been an important component of the human diet since prehistoric times. According to the WRI report, focusing on meat from ruminant animals, beef is one of the main meat product that is grown. A potent greenhouse gas such as methane appears from the digestion of the cattle and sheep which are beef products. [3] As a result, huge reductions in beef consumption is an essential to avoid dangerous climate change, according to the most comprehensive analysis yet of the food system's impact on the environment. [5] The researchers found [5] a global shift to a diet called "flexitarian", was needed to keep climate change even under 2C, let alone 1.5C. This flexitarian diet means the average world citizen needs to consume 75 percent less beef while tripling consumption of beans and pulses and quadrupling nuts and seeds. This would share emissions equally from livestock and better management of manure would enable further cuts. A slight change of people's perspective on beef consumption and their daily diet can make a great impact on the environment, human's health and sustainability. Every person has their own reasons for making dietary changes in their life and I propose most people can choose to eat less beef if they gain awareness on impacts and the negative effects of beef consumption.
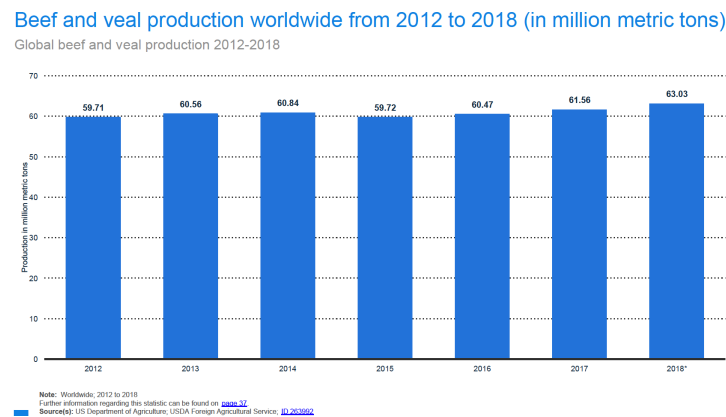
Figure 1.1: Beef and veal production worldwide, **Source:** US Department of Agriculture; USDA Foreign Agricultural Service; ID 263992
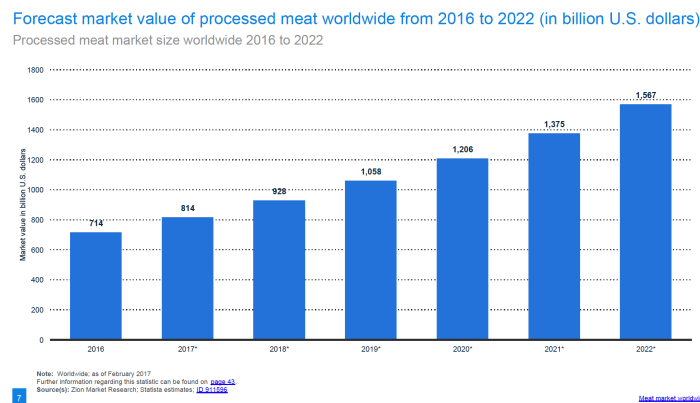
Figure 1.2: Forecast market value of processed meat worldwide, **Source:** Zion Market Research: Statista estimates ID 911596

1.2. Personal Engagement and Motivation

I am not a vegetarian or vegan. I am coming from a country which is famous for beef containing foods. My own shift to reduce beef consumption for environmental impact and then health. This research and self-awareness have brought me to understand other people's dietary changes based on habits and several influences including concerns for animal welfare, environment and health. According to my fieldwork, many people are currently unaware of the unanticipated consequences of beef consumption like for animal welfare, human health and environment, although these are also important reasons to know for eliminating beef consumption. In today's world, many people consume more beef products than they are actually needed for their health. I think that people might try to change their eating habit, at least their perspective, if they realize that how beef consumption rises in the world and effects on several things directly or indirectly. Thinking about changing perspective of people is hard, however there are several examples that some people can be affected from videos, movies, inspired from an anthology series that examines modern society, particularly with regard to the unanticipated consequences of new technologies. It is one of the effective mediums that make some people to change their perspectives including mine. In addition to my growing passion for reducing beef consumption, I have become increasingly concerned with its own effects. In my this research, I focus on three main negative effects of beef consumption and test which one has a better impact on changing people's eating habit about beef consumption. This thesis provides an entry point for people to consider how the food choice on beef products, and its effects on human health, environment and animal welfare, so they might reconsider about decreasing the times of eating beef products per week. They can start to think about reconsider to decrease the times of eating beef products per week. The behavioral and perspective changes result in significant contribution to environment and body health.

1.3. Scope of this research

The scope of this research is to test changing in awareness and for eating habits, especially for beef consumption. According to the test design and methodology, the three informational videos on three main topics will be created. These three main topics are beef consumption's effects on the human health, on the environment and on the animal welfare. They are selected by its effectiveness and researcher's interest. A baseline test will be conducted to find the awareness of the 3 subject. Then the test subjects will watch the videos designed to change perspective of viewers. As a designer, my goal is to change people's perspective of the impact of their personal food choices, especially on beef consumption. It is a quantitative research that the research will be testing by random sample group from different countries and make them to watch 3 different movies and give them questionnaire before and after each movie. Then, researchers continue by evaluating the results and finding the which scenario is convenient for which group of people. The further work and design depending on the outcomes are also part of this design as it enables to explore change in people's perspective on test design.

1.4. Structure

This subsections aim to describe this master's thesis structure, exposing the contents of each chapter as follows.

- Literature review section, which aims to gather a pool of knowledge about beef consumption on three main areas and its effects. The alternative solutions and what have been done so far about the topics are going to be explained. Furthermore, eating habit is a part of psychology that the relationship between psychology and design will be described. Other campaigns that are related with the habit forms and change in perspective are the kind of related works that the researcher is inspired from. The sources that are related with the beef, beef consumption, campaigns such as a change in people's awareness and tendency will be described.

- The design chapter starts by describing preconceived ideas and bias that

6

have been thought by the researchers. Then, it continues with the fieldwork and general survey for people's knowledge and awareness on meat consumption especially beef. The concept is to test the design in details for the test design in detail by linking to proof of concept.

- The evaluation chapter describes the results and outcomes from the questionnaire in detail. Firstly, it serves a validation for the test design. Secondly, the results are described by using quantitative research method in regards to statistics. Lastly, scope and limitations will be discussed by following in the discussion subsection. Like every testing, there are limitations that affect the result, so these limitations are considered and mentioned on this part of the thesis. The surveys utilized will be available fully on the appendix section of this thesis, while the informational videos' links will also be shared.

- The last part is conclusion. On this chapter, the concept validation will be discussed by objectively and clearly. Some creative ideas and future works will be described depending on the overall research outcome.

Chapter 2
Literature Review

2.1. Background Research

Ginger Hultin [6] said that the meat was the main part of the human diet since the ancient times that eating meat was mostly celebratory and estimates of animal-based intake in European agricultural societies were just 5 to 10 kilograms per person per year. However, the current consumption in industrialized countries is estimated to be 88 to 100 kilograms per person per year. It is crucial to understand that it would have been difficult to produce enough meat to feed the world's growing population. Meat is really important for people and society in economy and culture. On the other hand, meats' mass production and consumption have been determined to pose risks for human health and environment. Not only beef consumption has impacts on environment and human health, it also has an impact on the animal welfare that many vegetarians and vegans might abstain from meat because of concerns about the ethics of animal welfare and how they are slaughtered. Beef is one of the main consumed meat product that poses numerous threats to the natural environment, beside its effects on the human health and the animal welfare.

According to the international Delphi study, [7] making an informed decision about food supplement usage should have knowledge of positive and negative effects. Creating an awareness and the ability to compare these effects as knowing alternative products such as plant based beef products, feeling informed and self-efficacious to make the decision and making the decision voluntarily. As stated in this study [7], the important communication strategies was provision of information about negative effects and the nature of these effects and its proof facts that easily accessible, well ordered and simple and credible to show people.

2.1.1 Beef Consumption and Human Health Effect

Health Promotion and Education

Health promotion is the process of encouraging people to move toward a state of optimal health through lifestyle changes. [8]. As reported by World Health Organization (WHO Center for Health Development), Health education explained that any combination of learning experience designed to help individuals and communities improve or protect their health, by increasing their knowledge or influencing their attitudes. Food supplement use can have useful and detrimental effects, making informed decisions about supplement use important. Many people aren't aware of how the food affects their health.

Health Promotion and Its Direct Effect on Human Body

During last years, the incidence of colon cancer has been increasing rapidly. [9] In the Epic Trial (The European Prospective Investigation into Cancer and Nutrition), published in 2005, Norat and his colleagues followed 478,040 men and women from 10 European countries in between 1992-1998 and they faced 1329 colorectal cancer patients. They concluded that risk of colorectal cancer is positively correlated with the intake of red and processed meat.

Since the relationship between meat intake and colorectal cancer have become more intense, American Cancer Society made new recommendations about meat intake of processed meat and red meat in its Nutrition and Physical activity guidelines. They also suggest alternative foods such as fish, poultry and beans. [10] European scientists followed the US doctors, and they also made their own guidelines. One of French health institute called Institute National du Cancer also limits consumption of 500 gram of red meat per week.

There are also alternative sources of red meat. White meat which includes fish and poultry is not associated with colorectal cancer, and is recommended safely.

Not only beef leads colon cancer ,but also high cholesterol, many serious cardiac diseases, and genitourinary tract diseases. Unprocessed or smoked beef increases the risk of dying prematurely 13%. Internal medicine doctors have lots of organizations to tell the side effects of consuming beef products. In one study which published in Journal of Archives of Internal Medicine more than 120.000 men and

women followed for 24 years by researchers. 20 percent of participants died, and the death ratios was higher in those who consumes the red meat more. That is one of the biggest and strongest study to show the relationship between beef products and death. The researchers in this study, also talked about the consuming the beef products and their connection with heart diseases and diabetes. It is mostly because of the saturated fat, iron and cholesterol levels of blood. Sodium inside the red meat also leads that kind of heart diseases such as myocardial infarctus. It is obvious that beef consumers tend to be more likely to have life - shortening diseases.

American Heart Association informs the society every year, and compares the saturated fat ratios with other sources such as fish, chicken and poultry. This association warns people about the saturated fat's harmful effects, and how it raises the patient's cholesterol levels. High cholesterol levels due to beef consumption directly affects the blood circulation, and it is proven that it occludes the vessels of heart. Occluding the heart vessels leads to myocardial infarction which is one of most deadly moments of a person. All these side effects of beef consumption directed the researchers to find alternative source of food products. Kidney beans, soy beans and lentils are suggested alternative protein sources.

Beef consumption also has psychiatric side effects. People consuming beef more are thought to be more aggressive, and they are more prone to major depressive disorder. Consuming one kind of meal affects mental illness, and it is very easy to prevent that kind of mental illness. Healthy feeding makes people's mind more stable, and it also contributes to people's mental status. Societies consuming beef more tend to have higher crime rates.

Beef consumption also brings new infections to human body. Unconscious stocking the beef products leads increase in bacterial number. Number of bacteria doubles in every hour when it is stocked falsely. These bacterias lead to acute gastroenteritis, and it causes severe diarrhea even after consuming half hour. This bacteria also has harmful effects on gastrointestinal flora, and down-regulates the digestion of foods. That kind of down regulation leads not only acute diarrhea but also chronic gastroenteritis and diarrhea. Gout is also a common problem among people, and beef consumption is thought to have direct effect on gout disease. Massive beef consumption leads painful gout attacks, and patients may face with

losing their lower extremity. When the body digests the beef, Trimethylamine N-oxide (TMAO) metabolite levels in blood raises. This toxin leads severe gout attacks and heart diseases. Studies showed that people who consume beef had triple levels of trimethylamine N-oxide levels with those who consumed white meat or plant based proteins. When they stopped to consume beef, their blood level of Trimenthylamine N-oxide turned to normal nearly around 4 weeks.

2.1.2 Beef Consumption and Environmental Effect

Non eating beef is probably one of the biggest way to reduce the impact of humanity on the planet Earth, not only by reducing freshwater use but also reducing acidification and eutrophication. Cutting down on our flights or buying electric car is not as effective as reducing the gas emissions when we compare with beef.

One of the research has a very big data which is based on nearly 45.000 farms in 100 countries and covering 40 food products based on beef. The study measured that the full impact of beef consumption containing air pollution (acidification), water pollution (eutrophication), freshwater use and climate change emissions. Reducing beef consumption products leads to far better environmental benefits that reducing the using of cars. For instance, beef consumption held in defrosted land lead 10 times much more gases and use of 40 times more land.

Food production contributes approximately 25% of all greenhouses has emission of European Union which directly affects the environment [11]. Even one person can directly alter and reduce this gas emission by his/her own food choice. The biggest part of environmental emission of greenhouse gas comes directly from the consumption of beef products. It is approximately half of the all gas emissions coming from food sources [5]. It is acceptable that beef products supply nearly 33% of our dietary energy intake, and it is one of the major source of saturated fatty acids. When we compare this contribution with its side effect on environment, it is reasonable to talk about the downsides of beef consumption on environment [12].

Scientist also suggests alternative dietary guidelines that can help to reduce greenhouse gas emissions about 10%. Especially, Dutch national dietary guidelines are really helpful to reduce gas emissions [5]. Most of these guidelines, suggest a varied diet rich in fruit, whole grain cereal products and vegetables.

One of the research held in United Kingdom compared and modelled the effects of three diets with a various carbon footprint reduction. The result of that study showed that when we reduce our intake of beef products about 50%, and replace that by vegetables, and fruits; that kind of replacement leads to highest reduction in greenhouse gas emissions and death age if average person increases per year [13].

Researchers in United Kingdom still making a lot of research about this topic. Another recent study held in UK looked up how people's food selection affect and reduce the green house gas emission. Study proved that a potential greenhouse gas emission reduction of 36% if beef products were totally eliminated from our diet [14]. In addition, when beef consumption substituted with fruit and vegetables which provides same calories to our body, we could reduce land use and greenhouse gas emissions very effectively [15].

Environmental friendlier diets also lead healthier bodies by increasing survival rates of society. When the reduce our intake of beef products about 35 grams we can reduce the land by around 60% in Europe [16]. Replacing high green house gas emissions with lower green house gas emission products also decreases the down sides of food products on environment, and increases health status and survival rates of society. It directly affects the morality ratio of population [17].

Processed beef products are known to affect several morbidity results than unprocessed products. Fish might be alternative choice to beef products, but it is somewhat controversial from an ecological point of view. Unconscious fishing practices to supply dietary protein intake of humanity can result in unexpected harmful results on environment [18].

Food consumption is the main driver of environmental impacts, especially the main food consumption comes from meat products such as beef. Even though humans' needs for nutrition, this poses critical risk to the environment. Arguments about climate change are one of the most political debates in today's world. [19] Researchers thinks that greenhouse gas emissions(GHG) such as carbon dioxide, methane and nitrous oxide, with agriculture as a main contributor for the latter 2 gasses from livestock, are an emerging problem. Beef cattle is one of the most intensive emissions category which is responsible for 54% of total GHGs from livestock. [20] According to the results of their research, their study confirmed that reducing beef consumption by American consumers could reduce the GHG

emissions. In addition, their research mentioned at the conclusion that media attention is needed for conveying the message to the public that eating more meat is environmentally harmful, and people need to change their diet to constrain GHG emissions.

Table 2.1: Total Emission from the Global Livestock Sector

Animal Species	Equivalent CO2 (Million Tonnes)	Share in Livestock Sector Emissions (%)
Beef Cattle	2495	35.30
Dairy Cattle	2128	30.11
Pigs	668	9.45
Buffalo	618	8.74
Chickens	612	8.65
Small Ruminants	474	6.70
Other Poultry	72	1.01
Total Emission	7076	100

Source: Research by Main Animal Species [21]

2.1.3 Beef Consumption and Animal Welfare Effect

Animal welfare, concerning about how animals are slaughtered for beef products and how they are kept (as farms etc.) provides the frameworks for my approach to engage people in a process that allows them to consider the impacts of their dietary choices on beef consumption. Many people don't know or remember how the animals are treated, due to lack of empathy or being unaware. Creating an awareness and encouraging people who consume large quantities of animal-based food such as beef, to decrease their consumption can have a larger impact on the amount of animals killed every year than encouraging individuals that consume a minimal amount of animal-based food to transition to an all plant-based diet [22].

Many animals are raised in farms can not live in optimum conditions, they can not raise freely. Farmers keep them closed, and just feed to make them bigger. Bigger animals mean bigger prices, but this animals are not raised in their normal nature. That is kind of enforcement to animal rights.

1. Freedom from hunger and thirst: Since the animals are living creatures, they

deserve to feed from nature normally. Water resources and appropriate food products should be provided by humanity.

2. Freedom from discomfort: All humans deserve to live a comfortable life, also animals deserve that kind of living. Empathy is key point to understand this respectful idea. Researchers in this study, also pointed out that aspect of animal welfare in their video.

3. Freedom from pain, injury, and disease: Sacrificing animals for human needs are painful, and pitiless movement. Researchers in this study also inspired from that aspect when they design their videos.

4. Freedom to behave normally: Like all living creatures, animals also deserve to behave normally, and live their normal lifespan. They should not be restricted for the people's need.

5. Freedom from fear and distress: Constraining animals create distress to them, and keeping them restricted leads fear in the animals. Separating the animals from their normal family to sacrifice for pleasure of humanity leads irreversible problems for animal welfare.

All in all, these 5 "freedoms" are very important to emphasize the importance of animal welfare, and it is still acceptable for our century.

2.2. Related Works

2.2.1 Alternative Solutions for Beef Products

There are several alternative solutions for making people to choose non-beef and plant-based products especially in America. One of the popular business, start-up, is called "Beyond Meat", already has a value at about 1.2 billion dollars, slightly less than what it was worth in its most recent private investment round. According to Euromonitor International, the overall market for meat replacements in the United States grew around 22 percent last year, and 18 percent the year before. Recently, fast food chains like Burger King said that it

was introducing a meatless version of the burgers with another business called,
"Impossible Foods".

Figure 2.1: An example of Beyond Beef Product

Vegethon

Vegethon was a research that sought to develop theory-based mobile application
intervention to increas vegetable consumption. It was a qualitative research,
user-informed intervention that was systematically developed using the IDEAS
framework that has 8 phrases, starting from empathizing with users to piloting
potential efficacy and usability. The findings from each phase informed
subsequent phases. Vegethon aims to increase vegetable consumption among
overweight adults and is currently being evaluated in randomized controlled
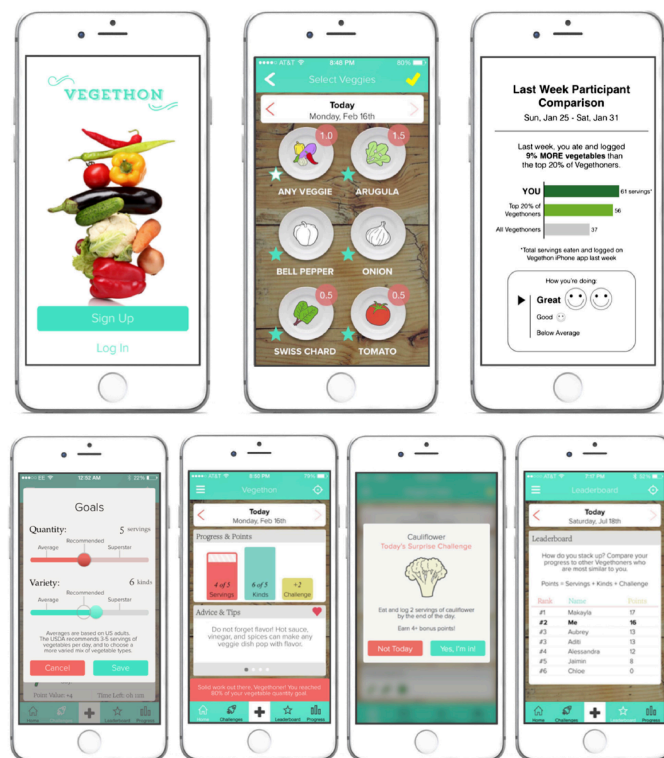efficacy trial. Its kind of a tool for delivering behavioral nutrition interventions.
[23]

Figure 2.2: An User Interface Design of Vegethon

2.2.2 Inspirations: The effect of the videos

The mass media, reaching and communicating with people in large numbers, can have a huge impact on the public's knowledge, beliefs, perceptions, attitudes and behaviours. It is not just for targeting individuals but also, communities and wider society. The power and reach of the mass media can influence all aspects of people. [24] The short-story telling and informative videos on the Internet and campaigns were inspirations for the design of my informative and empathy-videos and questionnaire design. In today's world, many movies make people to think and change their behaviors. Most of the advertisements have been making for consumer behaviours since the beginning. It is undeniable that videos, movies have a great impact on behaviours and thoughts. For instance, Black Mirror, the Netflix episodes that examine modern society, particularly with regard to the unanticipated consequences of new technologies. Many people have been aware of the negative sides of the technology that they hadn't thought about them before. According to the research [25] that aimed to explore how videos on prescription drug websites, and the involvement of risk information in those videos, influence consumer tendency, knowledge and perceptions,participants who viewed a video without drug risk information thought that the website placed more emphasis on benefits, compared with participants who viewed the video with drug risk information as a result of the study. In addition to videos on mass media, print media is also another dominant and influential mass media that can affect on changing people's perceptive. Print media has been using as a marketing tool for customer behavior since the beginning. However,one of the independent study shows that [26], video had much more influence than print media. The result of the study showed that the overall size of the advertising on television is a 6–10 percentage point increase in antidepressant use from being exposed to television advertising; the corresponding magazine effects are between 3 and 4 percentage points. Dorfmand and his friends focused on prostate cancer screening by using warning videos, and they founded that these videos had large effects on effecting the behavior of patients who were in risk group [27]. The use of that kind of educational videos have severe potential advantages.
Using videos can be a less resource of powerful way of delivering educational

contents. One study based on measure the cost- effectiveness of a video based HIV patient's education program concluded that using video helps to save 5,544.408 dollars for 10.000 AIDS patients each year. It was really big saving for economy and health associations. It was one of the most powerful arguments to use videos on affecting human behaviors, since it is obviously cost-effective [28].

In 1988, Gagliano and his friends focused on video interventions prevent inconsistencies between educators, and balance the presentation of information. By doing that they concluded video-based education was more standardized, and changed people's behavior more strictly [29].

Non-developed countries read less books and informative writings. It is harder to educate that kind of people who do not read anything. In 2009, Sobel and his friends showed that individuals with low health literacy are more prone to learn with video-based education [30].

Rosenstock in 1966 found that Health Belief Model predicts that society are more prone to change health-related behavior if they are convinced some important circumstances. When they believe a negative health condition can be avoided, a suggested action is also suggested to prevent a negative health condition, and then can successfully accept human health recommendation actions [31].

Bandura focused on the social cognitive theory proved that new behavior facilitating skills, and modelling the behavior of others. This study concluded that use of video modeling can facilitate the learning of new behaviors and skills [32] With the lights of these studies, Krouse in 2001 demonstrated that the change in desired behaviors by using visual representations [33].

2.2.3 Smoking Warning Campaigns and Packaging

Warning labels on cigarettes began to be required in the United States in 1966. [8] The messages were simple and cautionary such as:

- "Cigarette Smoking May be Hazardous to Your Health"

- "Quitting Smoking Now Greatly Reduces Serious Risks to Your Health"

- "Smoking By Pregnant Women May Result Serious Risks to Your Health"

- "Cigarette Smoke Contains Carbon Monoxide"

The United States was the first nation began to require warning labels on cigarette packaging, while Canada was the first country to implement picture warnings in 2001. In 2009, these labels changed to more colorful, prominent and graphic labels.One of the following four labels was required to be on the two principle sides and cover the 30% of the each side. [8] Health warning labels (HWLs) on tobacco packages were really important for communicating the dangers of smoking, particularly given their extensive reach pack-a-day smokers approximately over 7000 times a year. [34] In the world, there is great variation in tobacco packaging and labeling requirements by country. Currently, at least 53 countries require pictorial Health warning labels that cover 30% of the principal display areas of the packaging. For instance, Australia has implemented plain packaging with health warnings that cover 75% of the front of the pack and 90% of the back. On the another hand, some countries such as Japan and China only have a text warning requirement that just cover 30% of the front and the back of the packaging. — for instance, China and Japan require text warnings that cover only 30% of the front and back of the package. [34]

- "This product can cause mouth cancer."

- "This product can cause gum disease and tooth loss."

- "This product is not a safe alternative to cigarettes."

- "Smokeless tobacco is addictive."

Overall, several researches have been done for questioning the effectiveness of the smoking warning labels and as [35] mentioned, the majority of the smokers apparently could not notice the labels and of those who did, fewer than a third could correctly recall the general content of the warning messages. Moreover, these warning labels on packages effectively inform people about adverse health effects of tobacco but the mandated warnings do not serve the desired purpose, from the research made by [36].

Different types of smoking warning labels' packs, applied by some countries(Source [37]):

Figure 2.3: An example of smoking warning labels' packs

2.3. Summary

Because of the negative impacts on several things indirectly or directly on human or society, these related works are changing people's awareness, habits, tendency. Smoking warning labels around the world have been proven that it effects badly to human health. Even though these labels affected the smokers or not, it had a great effect and became a regulation that warn the early-users smokers that might have been affected than heavy smokers. Nowadays, beef consumption has become the one of the major problem for animal and human society and nature. The similar examples and lessons from the examples can get for using beef consumption's effect. Both individuals and policymakers should consider to reduce beef consumption in the world. Several alternatives already exist in today's world but a few people are aware about the impacts on beef consumption and the healthy portion of beef they need to eat. There are some works already touched these issues. One of the best example is "Cowspiracy", a documentary that inspires people for saving the planet or environmental

movement. According to the comments of this documentary, many people had been affected from it by changing their dietary. I think that people need to know more about these issues, how it affects them and the society that I live in.

Chapter 3
Design

3.1. Introduction

The initial motivation for making informative movies and questionnaire are on changing people's awareness about decreasing the beef consumption came from the personal interest of the sustainable development. My bachelor degree lead to explore and understand consumer behaviour which is related with psychology as well and marketing. In the core of it all, we tried to change people's awareness and tendency on their eating habits in a good way by using creative and empathy-related videos as a medium to reach them and make them to think by creating awareness.

Why is this study focusing on using videos to change human behaviors? When we study to design something that will help us to change the human behaviors. We realized that social media like YouTube, has very big impact on people's behavior change. There are also Youtube addicted people, and we begin to search our study. There are several researches that focus on behavioral medicine, and effects of videos on changing human behaviors. One of them was published in 2014, and focused on effectiveness of video based education in modifying health behaviors. Since this was a systematic review, it gathered many studies and gave us important ideas. In this study, they systemically reviewed 28 studies comprised of 12.703 subjects. Furthermore, videos' interventions at this study appear to be effective in many health programs such as prostate cancer screening, breast self examination, sunscreen adherence, HIV testing and promoting condom usage [38].

3.1.1 Market research survey

In trying to change people's eating habit is a long-run research that it was hard to evaluate accurately. Firstly, we tried to understand people's eating habit and their knowledge about their consumption. We made a market research on more than 130 people from all around the world and found out that not many people were aware about their eating habits impact on their health, or the environment. Even though some of them were aware of the animal rights, they didn't remember while consuming beef products. When we asked them if they knew about the limited meat consumption (max 500g per week) from the World Health Organization, more than half of the respondents didn't know about it. Furthermore, approximately same percentage if people didn't know how their eating habit affecting the environmental issues. The following graphs show the outcomes from the market survey about how people's awareness.
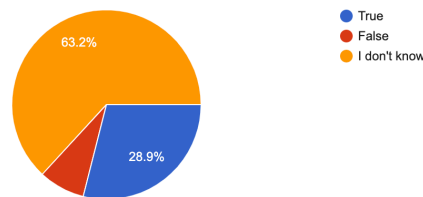
Figure 3.1: The result of the market research survey

Overall, the market research data shows us many people aren't aware of the circumstances or know wrongly about the impacts of their eating habits on beef consumption.

Beef production contributes to decrease 80% of Amazonian rain forest
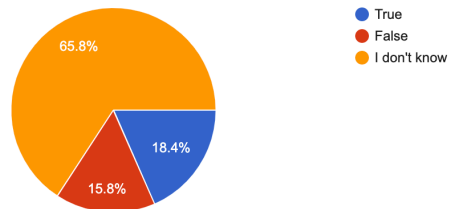
Figure 3.2: The result of the market research survey

Beef production contributes to kill 59 billion animals per year.
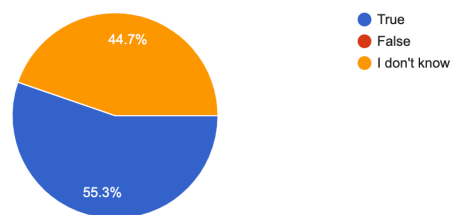
Figure 3.3: The result of the market research survey

3.2. Research Design

After the initial design research, the outcomes showed that a few people were aware about negative effects of beef consumption. After thinking about how to create an awareness and tendency on people's dietary about decreasing beef consumption. Thus, we thought about the great and daily, effective medium to reach people, which was video like advertisement. We decided to use visual media which was a video design to create an empathy and inform the people about the their food choice on beef products. There were 3 main impacts that we would like to emphasize and work on them for creating an awareness. Thus, I created 3 informational and creative, empathy-oriented videos on the following topics:

- A. Beef and human health.

- B. Beef and environmental impact.

- C. Beef and animal welfare.

A baseline test will be conducted to find the knowledge/awareness of the above 3 subject. Then the test subjects will be showed videos designed to change viewers' perspective.
The questionnaires for each topic are conducted for making comparison before and after watching the videos. Each topic has their own before and after sections that includes the same opinion and rating scale questions for testing and comparing the videos' effects on people's perspectives and awareness. All questions were prepared by understanding people's awareness on each topic, clearly and measure if their awareness are affected or not after watching the video by asking the same or similar questions.

3.3. Concept

The concept is an experiment that we can change people's awareness and perspective about their eating habits on beef consumption. We would like to encourage people to decrease their portion of beef products by changing their

perspectives and creating an awareness. In addition, this research concept is an useful tool for categorizing which topic/impact of beef consumption affects people more.

The 3 informative and creative videos' scenarios are written by us with a general, empathy-oriented true stories, that might be happen for the future. The same background music and the length of 3 the videos are kept the same for not comparing with each other. The videos are in English and in Japanese but without any speech. The videos are watched depending on the respondents' nationality. The actors and actresses are all amateurs and their permissions are taken before they act.

The storyboard of the three impactful videos:

- A. Beef and Human Health: The main purpose of this design is using the negative ways of beef consumption to increase awareness on beef consumption. We previously mentioned that negative scenarios are more effective in changing people's habit. Video method is the one of the best choices for changing people's behavior, because it is easier to reach big amount of people, and the standardized method to affect the society. Our design for human health is based on the one of the most dangerous side effects of beef consumption called "colon cancer". Our first actor; Jack is a 32 years old who works as a salary man. He loves beef and consumes beef products regularly. He eats beef products more than 4 times per week and he does not know about how his health is affected by his eating habit. This scenario aims to show how unconscious beef consumption will lead colon cancer, and break up a happy family. By the time, our main actor get bowel cancer because of his diet on consuming a lot of beef products. Lastly, he has been hospitalized. At the end, doctor tells him about the reality, and how short his life is. After bad news, the result of the unconscious beef consumption can be seen in the faces of our actor and actress. The video ends with some quotes and short facts such as "Red meat and processed meat like beef increases bowel cancer risk", "Let's reconsider how much beef we should consume in our daily life". These quotes make the end of the video more dramatic, and give significant messages to our research's attendants. The storyboard of the human health video is illustrated in figures 3.4
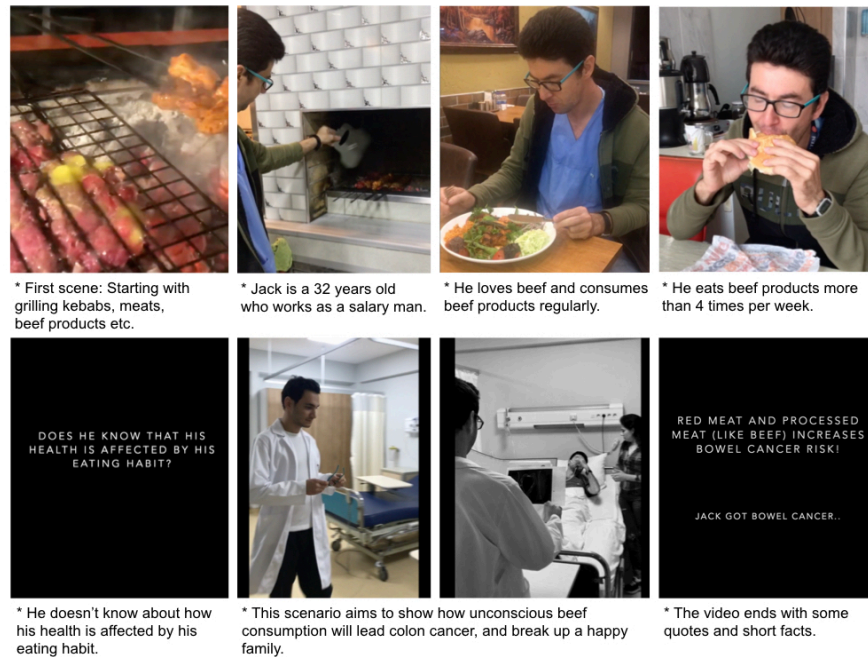
* First scene: Starting with grilling kebabs, meats, beef products etc.

* Jack is a 32 years old who works as a salary man.

* He loves beef and consumes beef products regularly.

* He eats beef products more than 4 times per week.

DOES HE KNOW THAT HIS HEALTH IS AFFECTED BY HIS EATING HABIT?

* He doesn't know about how his health is affected by his eating habit.

* This scenario aims to show how unconscious beef consumption will lead colon cancer, and break up a happy family.

RED MEAT AND PROCESSED MEAT (LIKE BEEF) INCREASES BOWEL CANCER RISK!

JACK GOT BOWEL CANCER..

* The video ends with some quotes and short facts.

Figure 3.4: The storyboard of the human health video

- B. Beef and Environmental Impact: The environmental effect of beef consumption varies in a huge range, but we focused on one of the most devastating side effects called climate change. Since it is a very popular topic in our population such as social media, this negative way of beef consumption is chosen. Our main actress; Sema is a 32 years old who works as a business woman. She is again one of the person who consumes beef products unconsciously. The design aims to create awareness by facing the negative effects on climate. Our main actress loves beef hamburger. She eats beef products several times per week, but she does not know how she affects the environment badly as beef consumption has a huge effect on climate change. While she is having a shower, first of all, she faces with the effect that water resources of planet is decreasing because of beef consumption. She also faces that the one of her favorite flowers dies because of the climate change. These facts that she faces with, aim that attendants of the research should think wisely when they consume beef products. The video ends with some

quotes and short facts such as "144 hamburgers per year equals to more than 100,000 gallons of water per year ", "Beef production contributes to decrease 80% of Amazonian rain forest. Losing one of the main oxygen resource ", "Let's reconsider how much beef we should consume in our daily life ". These quotations are based on scientific data, and aim to change the people's idea on beef consumption. The storyboard of the the environment video is illustrated in Figure 3.5.
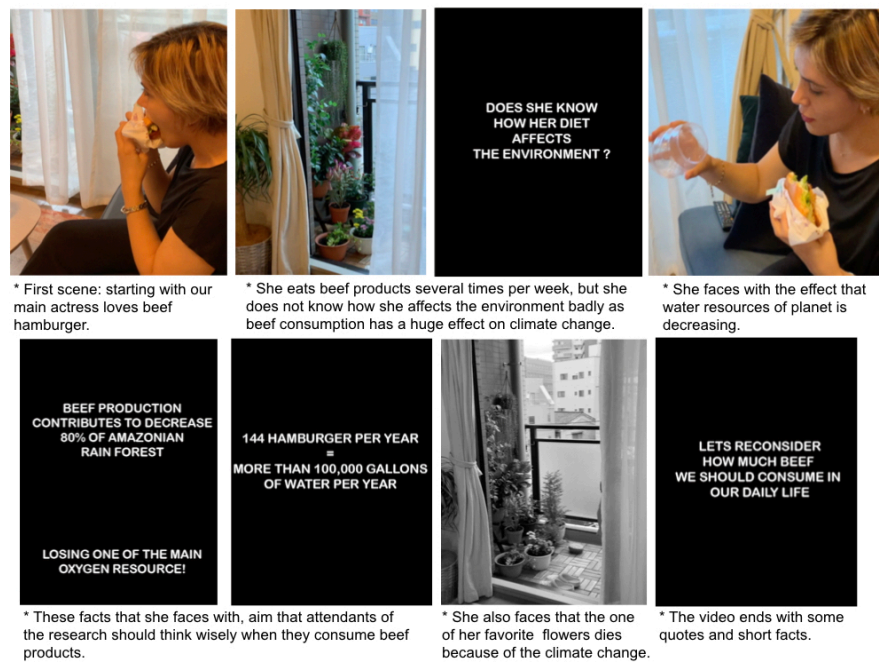
Figure 3.5: The storyboard of the environmental issue video

- C. Beef and Animal Welfare: The animal welfare of beef consumption is generally neglected by the society, and in this research we aim to increase in awareness about this topic. We focus on how beef products are produced. The effect of the beef production's steps are revealed in this video. Jane is a 32 years old who works as a business woman. She is also one of person who loves to eat meat in her daily life. She does not know where the beefs

come from, from which circumstances, she has not thought or had empathy about their slaughtering way. To make an empathy, while she was dreaming, she faces that she is being slaughtered mercilessly because of pleasure of any other living creature. This slaughtering occurs in brutally, and painfully. To make the empathy, we change the roles of human and beef. The actor who makes this harshly slaughtering is a beef, and the victim is a human. Our aim is to increase the awareness by a devastating scenario. Video ends with some quotes and short facts such as "Let's try to make empathy", "Beef production contributes to kill 59 billion animals per year". These are the realities about this topic, and give last messages to complete the video more impressively. The storyboard of the the animal welfare video is illustrated in Figure 3.6.
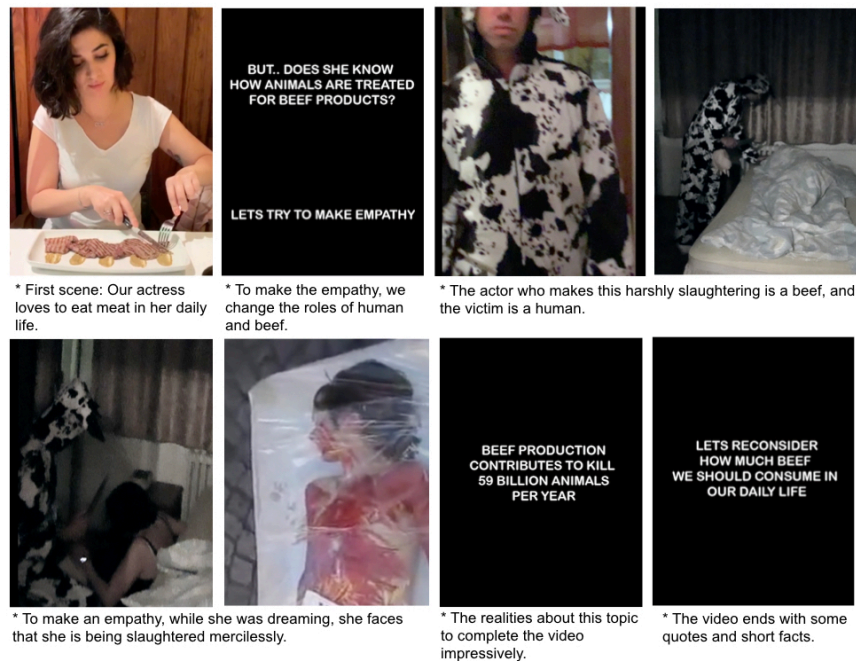

Figure 3.6: The storyboard of the animal welfare issue video

3.3.1 Participants

The participants were selected by people's eating habit as like to eat beef products. An online, international global study was conducted among 52 random people from different age range groups. Procedures of earlier studies were followed to inform the participants in advance. Respondents were selected by who consumes beef products such as non-vegetarians or non-vegans, also people who didn't follow religious issues for their eating habits. Consequently, 60 participants were invited by mail. Respondents had 10 days to complete the questionnaire. A total of 52 participants from variety fields of professional fields (e.g. doctor, businessman, designer, housewife, manager, advisor, teacher, programmer,engineer, lawyer) participated. This design research was made by nearly an equal numbers of men and women(51.9% male, 48.1% female). Most of the participants (%55.8) were between 20-29 years old, 28.8% of the participants were between 30-36 years old. The 40-49 age-group were 11.5%. Furthermore, almost all of our participants had degree equivalent and postgraduate qualification level.

3.3.2 Questionnaire Design

Our questionnaire design includes 8 parts of questionnaire and 3 videos. Approximately 20 minutes long questionnaire starts with the general information part with background and general questions, and then continue with human health part with its own video by before/after questions, and then the environmental issue part by its video and before/after questions, and then the animal welfare part is by its video and before/after questions. At the final section of the questionnaire ends with similar type of beginning questions for measurement the awareness change, and some open-ended opinion questions for final comments about the research.

First section: General Information

The aim of this first section is to obtain general knowledge from the respondents for understanding their background about the topic. The first-section questionnaire consists of 17 short open-ended, generic questions and multiple

choice questions related to beef consumption in their daily life. One of the multiple choice question on this part is asked by using photos of different dishes to make people to choose regardless of their bias.

Second section: Human health before video

On this second section, the questions are all about the health. 16 questions are asked before watching the video, it measures how much respondents like beef products and what they know about the relationship between human health and beef consumption.

Third section: Human health video

Non-professional actor and actress are played on this video. The scenario is about making empathy what happened if a person eats a lot of beef products more than recommended. Showing the evidence and asked participants to make an empathy and warned them about their diets on beef consumption.
In all videos, the same music is chosen and the length of the 3 videos are the same. The quotations and the way that all information and evidences are used, are similar on each video. The videos are in English and Japanese. They are distributed by the participants' native language.

Fourth section: Human health after video

After the respondents watch the human health video, they continue with the fourth section that including the same questions from the second section. This section also ask questions about how viewers would like to change their eating habit. There are likert scale, agree or disagree rating scale questions that used to measure respondents' opinions and awareness of beef consumption.

Fifth section: Environmental Issue Before Video

On this fifth section, the questions are related with environment such as asking people if they are belong to any environmental organization and, if they know about some facts related with negative sides of beef consumption. 18 questions are asked before watching the video, it is for how much respondents like beef

products and what they know about the relationship between environment and
beef consumption.

Sixth section: Environmental Issue Video

This video is played by a non-professional actress. The environmental issues
such as drought, climate change, air pollution are illustrated and shown on this
video. The numbers and visual evidence are shown on the screen at end by
requesting to make an empathy and warning call as a message.

Seventh section: Environmental Issue after video

After the participants watch the environmental issue video, they continue with
the following section that including the same questions and new questions such
as multiple choice for their feelings, likert scale questions, matrix type of
question about their thoughts. For the comparison between the other impacts,
the similar questions are asked on this issue part as well.

Eighth section: Animal Welfare Issue before video

The eighth section starts with animal welfare issue question. First of all, asking
people if they care about animal rights or not, if they like animals or not and
where they get their beef or meat products etc. Then, similar questions as
previous sections have, are asked to the participants. Overall, 13 questions are
well prepared to understand the knowledge of them about the issue.

Ninth section: Animal Welfare Issue Video

This video is also played by non-professional actor and actress. The scenario is
about making empathy how the cow suffers and is hurt while slaughtering.
Purpose of video is showing the numbers of animals that have been killed per
year and how people affect the animal's life.

Tenth section: Animal Welfare Issue after video

After the participants watched the final video about the issue, the animal
welfare, they continued with this section that including the same questions and

new questions such as multiple choice for their feelings, likert scale questions, matrix type of question about their thoughts. The questions are prepared for comparing the knowledge and awareness of the participants before and after the videos.

Eleventh section: General Ending Questions

This section is the last part of the questionnaire. In total, 12 questions are prepared. Some of them are similar as the first section to find out the outcome of all videos. Some questions are also like the comparison of the 3 impacts such as which story from the videos is affected them the most or how important the issues are for them etc. In addition, there is an open-ended and non-required question for asking feedback.

3.3.3 Quantitative Research

At the quantitative research, we collected the data from the measurable questions before and after the videos. The questions were almost the same as like their answers. There were likert scale, agree or disagree rating scale questions that used to measure respondents' opinions and awareness of beef consumption. For example, how much beef products they liked, bought and ate per week, how concerned they were with human health, environmental issues and animal welfare, how respondents' perceived awareness of issues associated with the beef consumption level. We used the method of quantitative research for the controlled, objective testing and experimentation. It was standardized to reduce bias when collecting and analyzing data. However, this method couldn't useful for compared the answers between participants. For instance, the rating scale from "very interested" or "interested" question can be used for compared the participant's awareness before and after watching the video, but they couldn't respond that kind of questions without implying how much more interested they are than another respondent. We chose the quantitative method because it had an advantage of collecting data from participants' opinions in a confidential questionnaire that later used in the data analysis process.

Chapter 4
Evaluation

This section of the thesis provides an overview of how the data was collected, transcribed, and analyzed. Online surveys were collected via Google form survey method including three videos and each sections were in order to measure the results accurately.

4.1. Method

The following list describes the flow of the test design for each participant but the video sections are randomly asked to the participants:

1. Cover letter and asking permission.

2. General Questions for background information.

3. Questionnaire about Human Health (before the video; the first survey).

4. Watching the video about the human health.

5. Questionnaire about Human Health (after the video; the second survey).

6. Questionnaire about Environmental Issue (before the video; the first survey).

7. Watching the video about the environmental issues.

8. Questionnaire about Environmental Issues (after the video; the second survey).

9. Questionnaire about Animal Welfare (before the video; the first survey).

10. Watching the video about the animal welfare.

11. Questionnaire about Animal Welfare (after the video; the first survey).

12. General last Questions for comparing the overall effect from the three impacts

4.1.1 Results and Analysis

Many participants liked the steak the most from the beef products. More than half of the participants preferred to eat beef at the restaurants (59.6%) and 63.5% percentage of people consumes beef because of its taste even though, there were several alternatives with similar tastes at the market such as plant-based products but, people weren't aware of the alternative and similar tastes for replacing beef. When we asked participants who had already thought to be a vegetarian or vegan, just 19 of them had thought to be before because of the animal rights and health issues at the most. From the last section, we asked people to how to change their diet on beef products. 44.2% of them chose to decrease eating beef products, 30.8% of them chose to think and considered about their diet on beef, whereas 19.2% of them preferred not to change their habit, so they weren't affected by the videos and information.
Participant who had consumed beef once a day decreased from 11.5% to 9.6% after being aware of the all 3 impacts, while 19.2% of people who ate beef once in a week which was the better and ideal option, increased to 42.3%.
The respondents consumed beef products at the dinner time the most with 86.5% percent. 44.2% percent of them preferred their beef to be cooked medium, while 34.6% of them wanted it as well-done cooked. When we asked participants to choose one of the dishes such as chicken with rice, vegetables, pasta, steak and hamburger at the beginning, 69.2% of the respondents chose the steak option. The hamburger option was following of it with the second most choice as 9.6%. After the three videos, the choice of steak changed to 42.2% percent, while vegetable choice increased to 25% from 5.8%. This dramatic change showed us the three videos have an impact on people's choice on dishes that decreasing to choose beef products from the selections.
More than half of the respondents (51.9%) were affected by human health video, while 48.1% of people were affected by animal welfare. The least effective video

36

was environmental impact with 26.9%.

Overall, human health video was affected people's awareness more than the others, while environmental effect video was affected the least at all. We also understood that learning and know the reality, didn't change people's behavior directly but it was just the beginning to create an awareness and thoughts. Some participants' comments after a few months were so grateful that they became more careful to choose the portion of meat and beef products, while scheduling their weekly eating preference. It showed that our research had already a positive effect for heavy-beef consumers, so they had started to consider decreasing beef products on their diet.

Comparison of results for 3 main impacts

According to the results, it showed that people were influenced from the human health and animal welfare video more than the environmental issue. Many people thought that beef consumption could not be the major reason for environmental problems such as climate change. At the end of each videos, we asked participants about their feeling on the each scenario. 52 participants felt nervous and afraid for the first video which was the beef consumption's effect on human health while it was also useful for them from their answers. According to the second video, the environment and the beef consumption, participants felt bored but nervous and useful at the same time. Finally, the participants watched the video about the animal welfare and beef consumption. It showed that participants were afraid and nervous while felt satisfied and useful. Respondents' awareness were changed positively and they thought not to eat a lot of beef for animal rights after watching the video.

4.1.2 Data Analysis and Findings

Human Health and Beef Consumption

29 number of people from 52 participants went for a check up occasionally that showed that more than half of respondents cared about their health, as showed in Figure 4.1

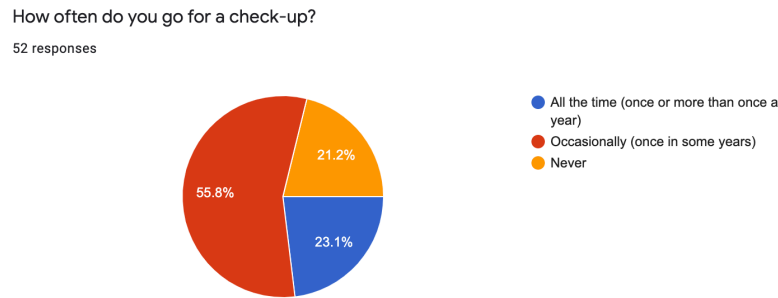How often do you go for a check-up?

52 responses

Figure 4.1: The comparisons of the results of the questionnaire

Respondents' awareness had changed about the beef products' negative impact on human health after watching the human health informative video. At the beginning 30.8% of them thought that it didn't affect their health in a negative way, but then that percentage decreased to 15.4%, as showed in Figure 4.2 Before watching the video, we asked people if their health might get worse when they ate more beef than they need. Just 8 of them strongly agreed with this statement, while 23.1% of them chose to be neutral. However, the changes on the answer showed us that their awareness changed after watching the video. 76.9% agreed strongly, as showed in Figure 4.3.

We asked about their tendency not to eat a lot of beef products for their health by a scale question. The result was quite interesting before and after watching the video. It shows that it had affected some of the participants while some were not be affected, as shown in Figure 4.4

According to the agree and disagree range questions, participants' awareness about the facts on beef consumption and its effect on health were changed positively. Thus, most of the participants learned and understood that eating beef products more than recommended portion could affect their health badly. On the other hand, some respondents' mind hasn't changed or they still don't want to limit their consumption. As shown in Figures 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.11, 4.12.
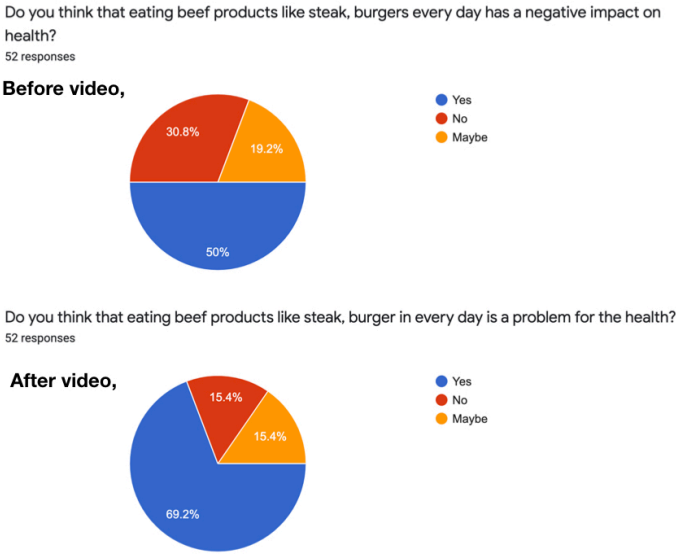
Do you think that eating beef products like steak, burgers every day has a negative impact on health?
52 responses

Before video,

Do you think that eating beef products like steak, burger in every day is a problem for the health?
52 responses

After video,

Figure 4.2: The comparisons of the results of the questionnaire

Do you know that if you eat more beef than you needed, your health might be getting worse?
52 responses

Before video,

Are you aware that if you eat more beef than you needed, your health might be getting worse?
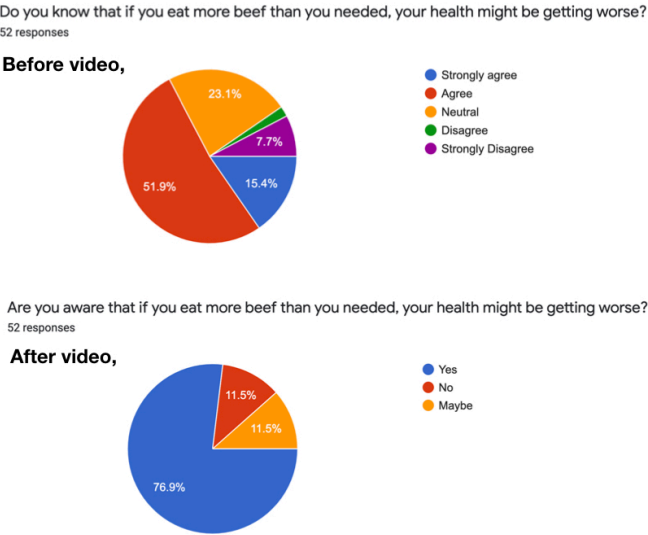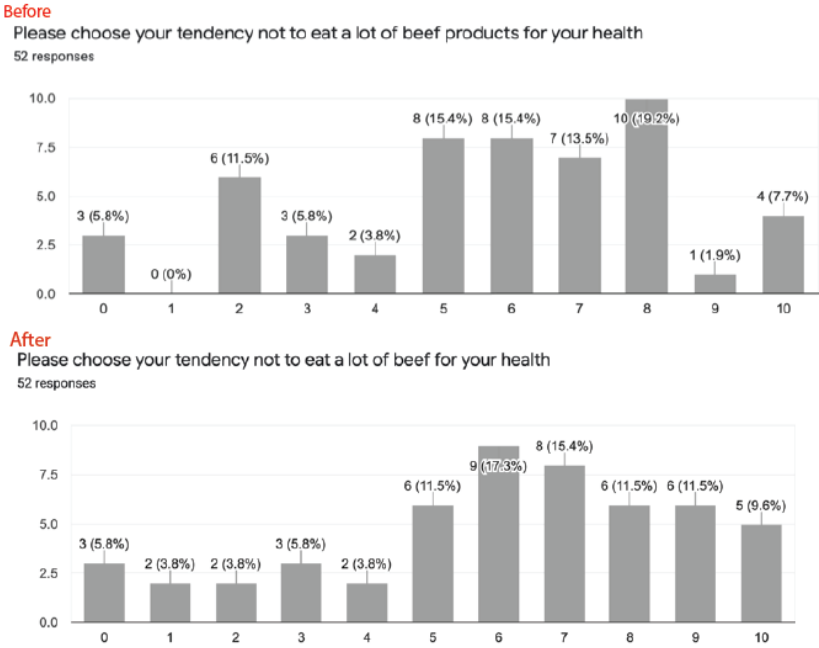52 responses

After video,

Figure 4.3: The comparisons of the results of the questionnaire

Figure 4.4: The comparisons of the results of the questionnaire

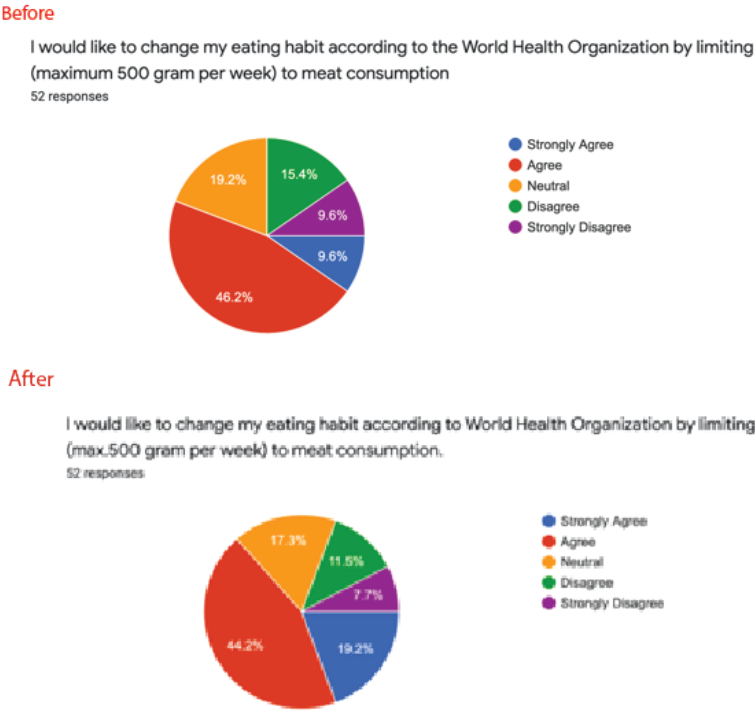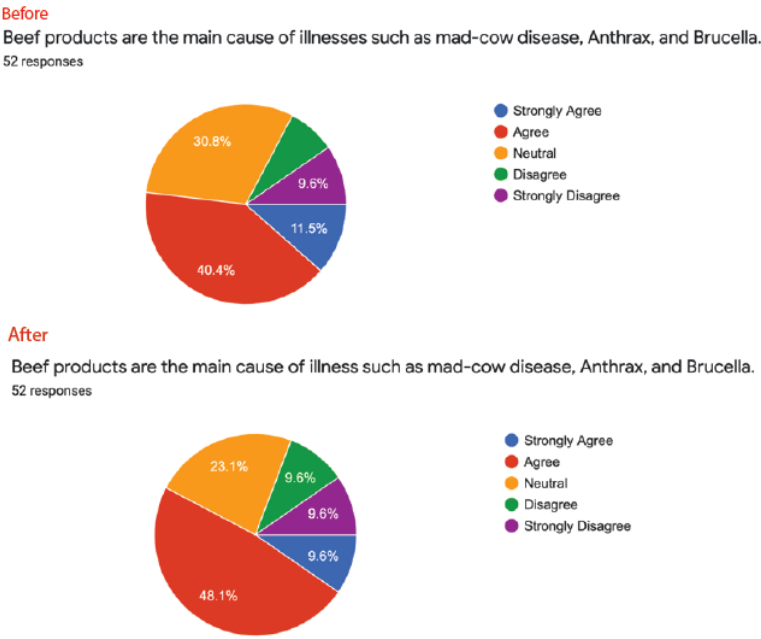Figure 4.5: The comparisons of the results of the questionnaire

Before

Beef products are the main cause of illnesses such as mad-cow disease, Anthrax, and Brucella.
52 responses

After

Beef products are the main cause of illness such as mad-cow disease, Anthrax, and Brucella.
52 responses

Figure 4.6: The comparisons of the results of the questionnaire

Figure 4.7: The comparisons of the results of the questionnaire

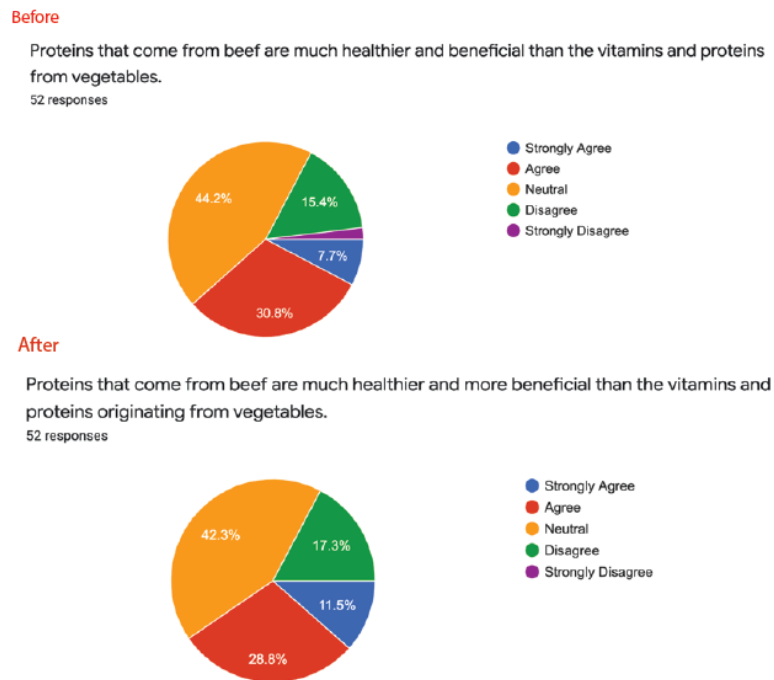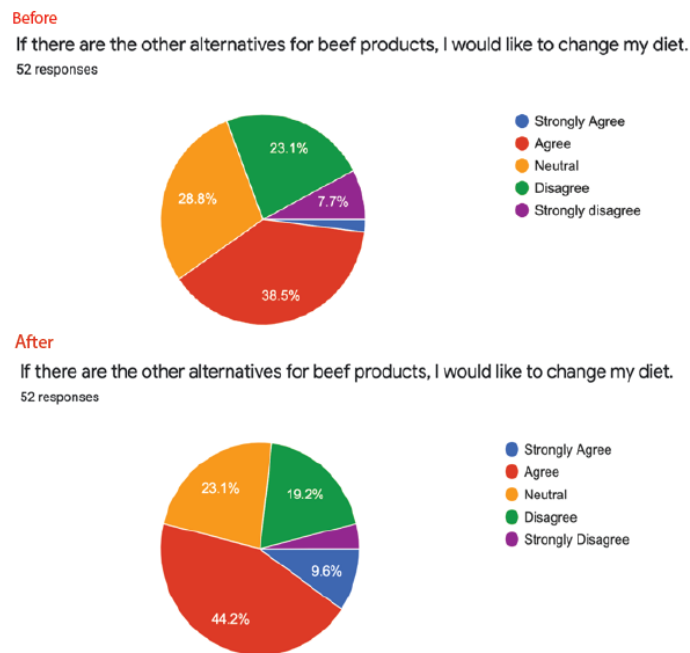Figure 4.8: The comparisons of the results of the questionnaire

Before

I would like to limit my diet to consume beef products (3 portions per week) for my health.
52 responses

After

I would like to limit my diet about eating beef products(3 portions per week) for my health.
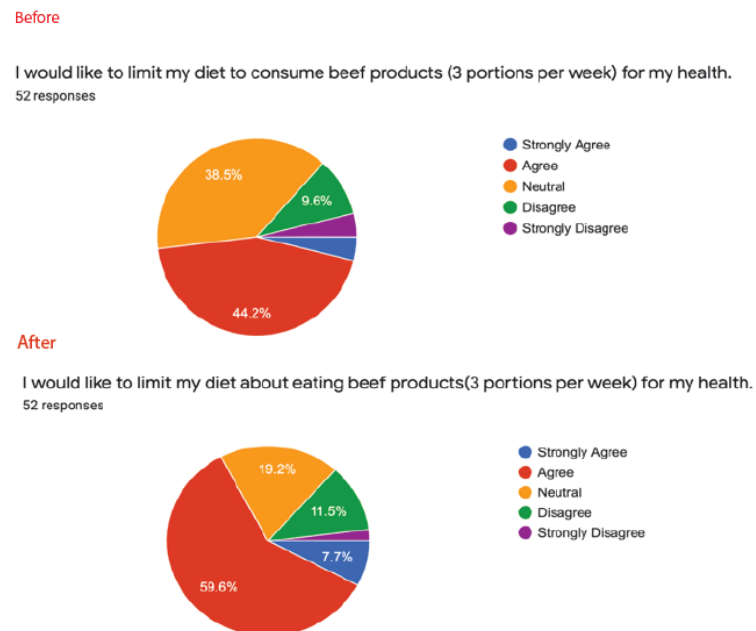52 responses

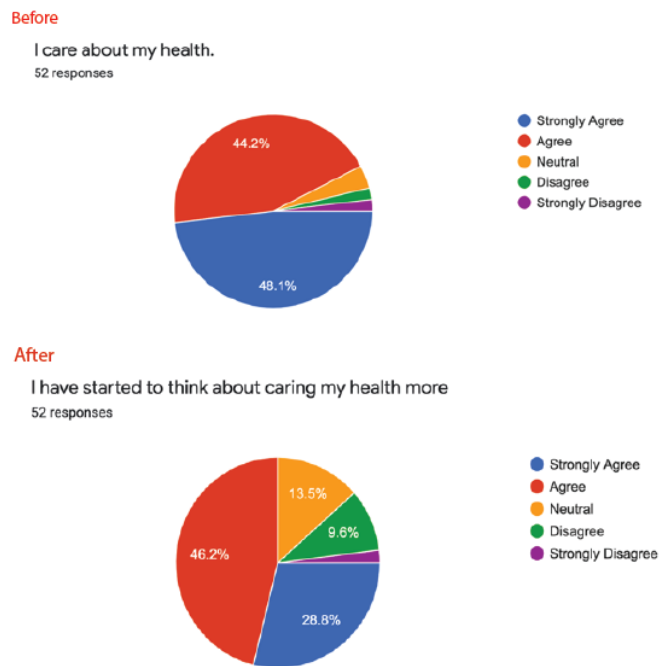Figure 4.9: The comparisons of the results of the questionnaire

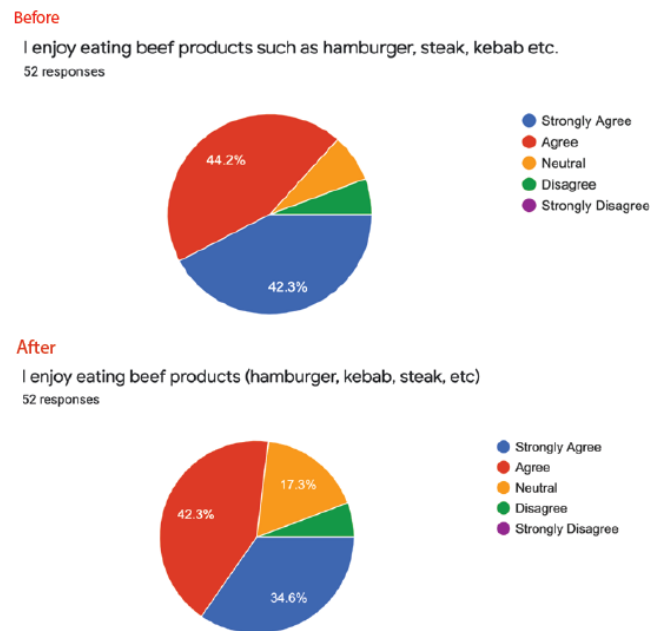Figure 4.10: The comparisons of the results of the questionnaire

Figure 4.11: The comparisons of the results of the questionnaire
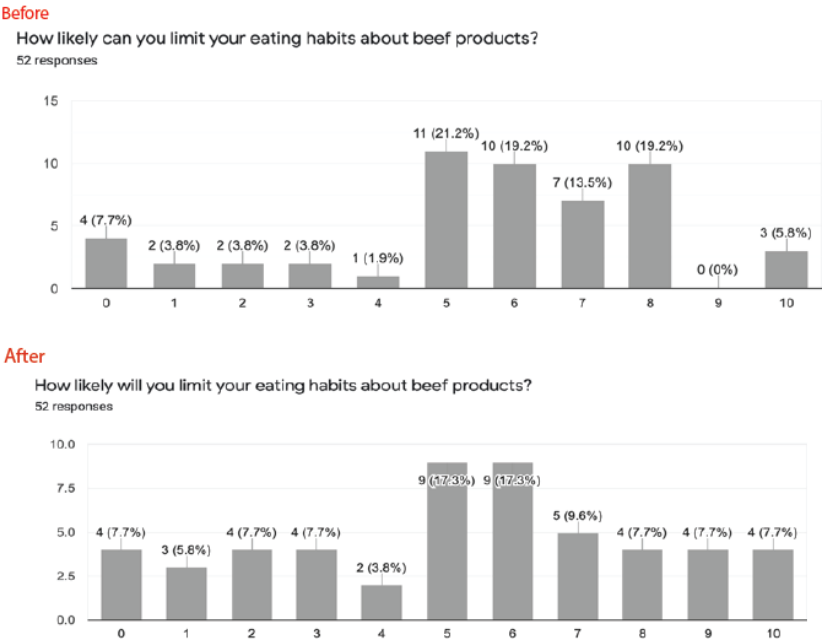
Figure 4.12: The comparisons of the results of the questionnaire

Environmental Issues and Beef Consumption

82.7% of participants on this research weren't part of any environmental organization. Most of them (34.6%) felt sensitive about the environmental issues such as climate change, 21.2% percent of them, were afraid about these kind of issues while the same percentage of people just felt positive, surprisingly. When we asked the participants if they thought that the eating habits could affect the environment, 55% of them answered it with "yes", while 34.6% of them answered it with "maybe". It showed that they didn't know how beef consumption affects the environment.

Surprisingly, even though participants had been shown the facts on the video, their tendency to limit their beef consumption didn't change at all. More than half of the participants answered as "yes" to the consuming beef products every day could create a problem to the environment (55.8%), while 23.1% answered as "maybe". Many of them believe that there were other negative effects to the environment much more than eating more beef. As shown in the graph 4.13. According to the agree and disagree range questions for this part, participants' awareness about the facts on beef consumption and its effect on health has been changed but not as much as the other issues. It seems that they got knowledge at all and the agreement to the facts increased even though they aren't willing to change their eating habit for the environmental issues. As shown in figures 4.14, 4.15, 4.16, 4.17, 4.18, 4.19, 4.20, 4.21, 4.22, 4.23.
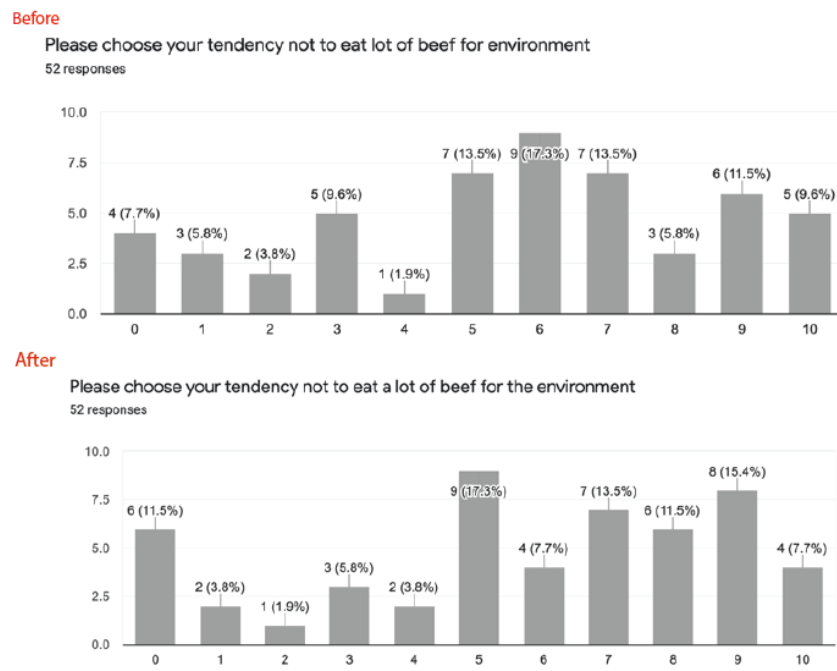
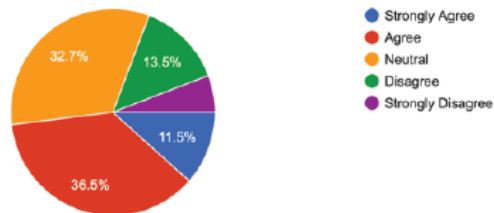Figure 4.13: The comparisons of the results of the questionnaire

Before

I would like to change my eating habits to plant-based products instead of consuming beef in order to save nature.

52 responses

After

I would like to change my eating habits to plant based instead of consuming beef in order to save nature

52 responses

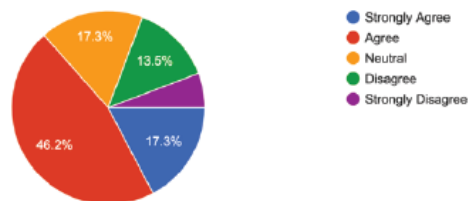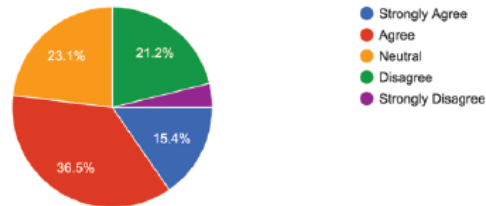Figure 4.14: The comparisons of the results of the questionnaire

Before

Eating less beef can save the environment
52 responses

After

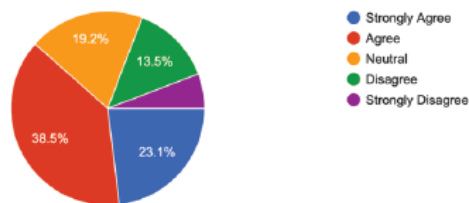Eating less beef products will save the environment.
52 responses

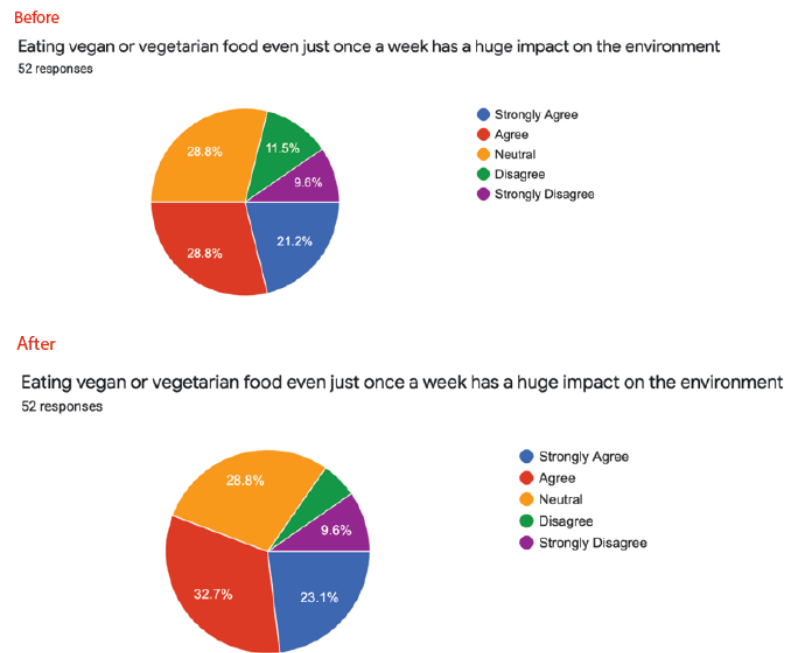Figure 4.15: The comparisons of the results of the questionnaire

Figure 4.16: The comparisons of the results of the questionnaire
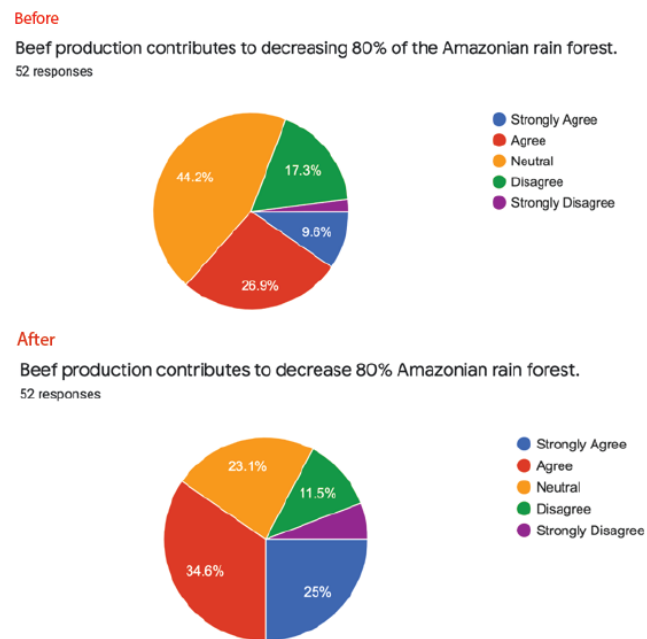
Figure 4.17: The comparisons of the results of the questionnaire

Figure 4.18: The comparisons of the results of the questionnaire

Animal Welfare and Beef Consumption

At the beginning of this section, we asked our participant if they cared about
animal rights or not. 84.6% of them chose the "yes" option which they cared
about the animal rights, while 5.8% of them didn't care about them. In addition
to this question, we asked the respondents if they cared how animals were
slaughtered for beef production, and 63.5% of them agreed while 21.2% of them
cared just sometimes and 8 participants didn't care are all. Before the video, the
question about liking animals was asked and almost all of the respondents liked
animals (90.4%). However, nearly half of them thought that eating steak or beef
products in every day wasn't a problem for the animal welfare, while 51.9% of
them agreed that it would be a problem for animal welfare (26.9% percent of
participants chose the option as "no", 21.2% percent of participants chose the
option as "maybe").

According to the agree and disagree range questions for the animal welfare
part,at first the participants hadn't been as much as aware and careful, but after

Figure 4.19: The comparisons of the results of the questionnaire

Figure 4.20: The comparisons of the results of the questionnaire

Before

I would like to limit my diet to eating beef products(3 portions per week) for the environment.
52 responses

After

I would like to limit my diet about eating beef products (3 portions per week) for the environment.
52 responses

Figure 4.21: The comparisons of the results of the questionnaire

Figure 4.22: The comparisons of the results of the questionnaire

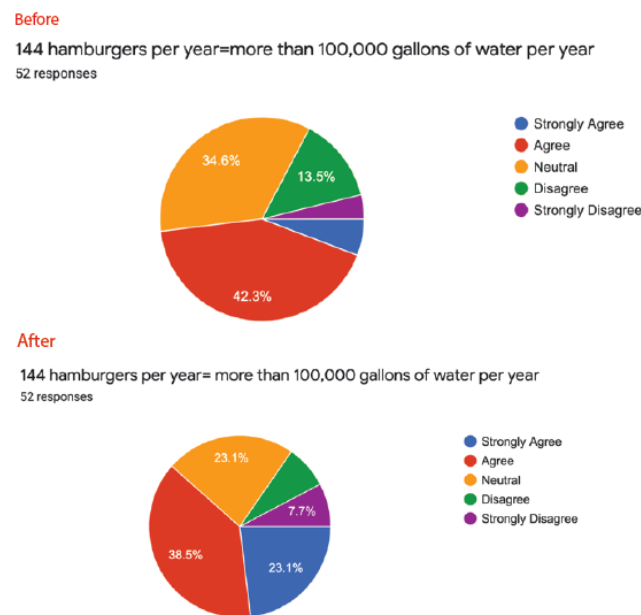Figure 4.23: The comparisons of the results of the questionnaire
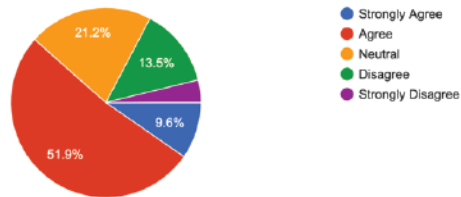
watching the last video about the animal welfare issued with empathy, participants' awareness about the facts on beef consumption were changed and they started to understand how beef consumption affects on animal society badly and harmfully. Thus, their answers on the surveys were changed before and after watching the informative video. As shown in Figures 4.24, 4.25, 4.27, 4.26, 4.28, 4.29, 4.30.

Before

World Health Organization has limited meat consumption(maximum 500 gram per week)
52 responses

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

26.9%
9.6%
15.4%
46.2%

After

World Health Organization has limited meat consumption(maximum 500 gram per week).
52 responses

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

25%
7.7%
38.5%
25%

Figure 4.24: The comparisons of the results of the questionnaire

Figure 4.25: The comparisons of the results of the questionnaire

Before

Antibiotics, medicines for the beef can hurt them and consumer's health.

52 responses

After

Antibiotics, medicines being used for the beef can hurt them and consumer's health

52 responses

Figure 4.26: The comparisons of the results of the questionnaire
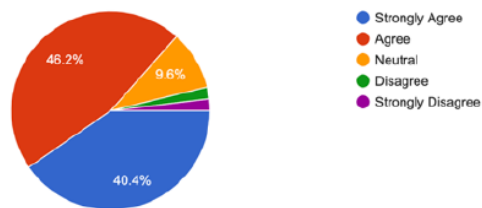
Figure 4.27: The comparisons of the results of the questionnaire

Before

If there are the other alternatives for beef products, I would like to change my diet.
52 responses
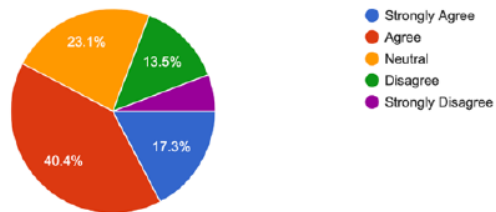
After

If there are other alternatives rather than beef products, I would like to change my diet.
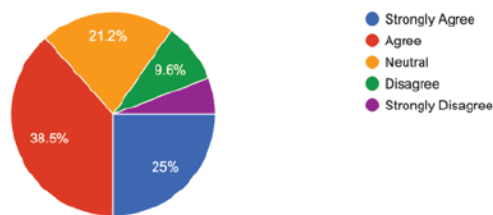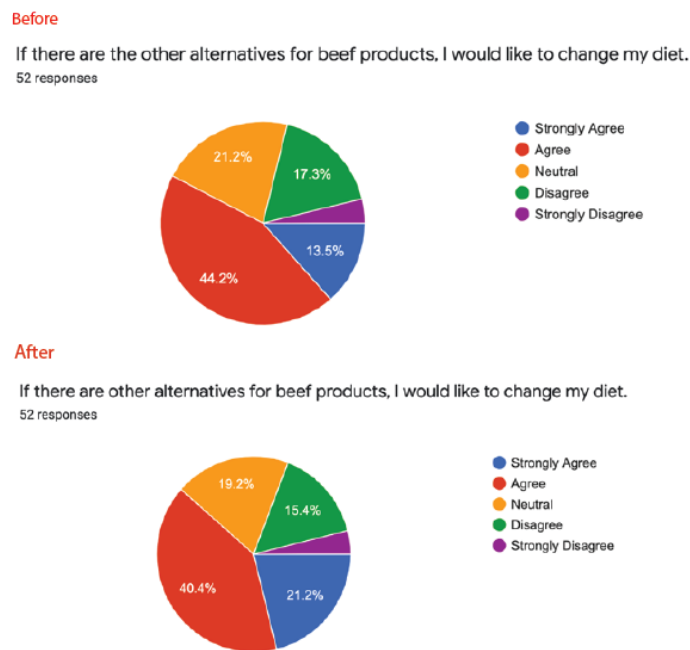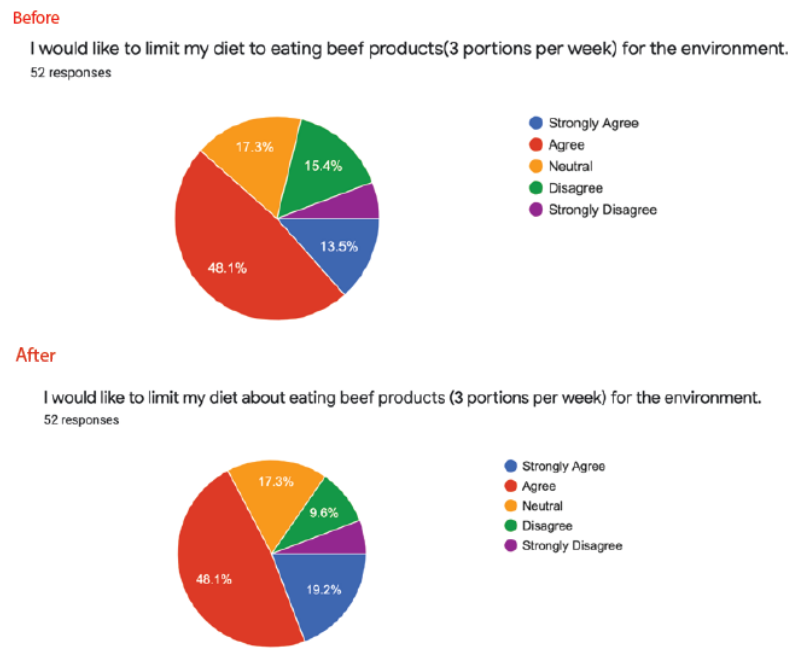52 responses
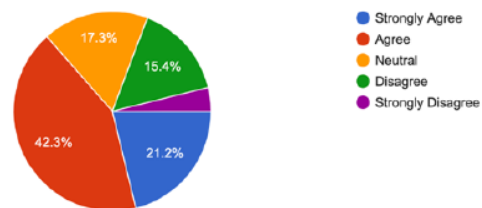
Figure 4.28: The comparisons of the results of the questionnaire
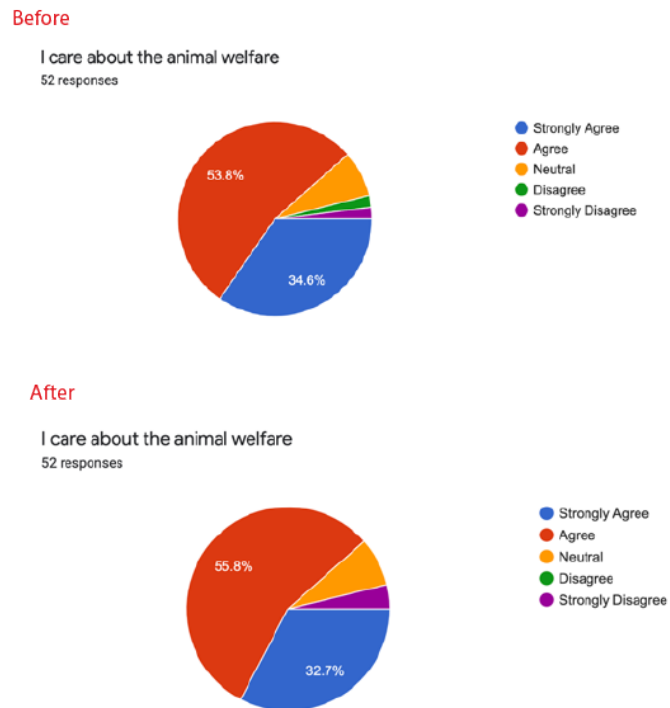
Figure 4.29: The comparisons of the results of the questionnaire

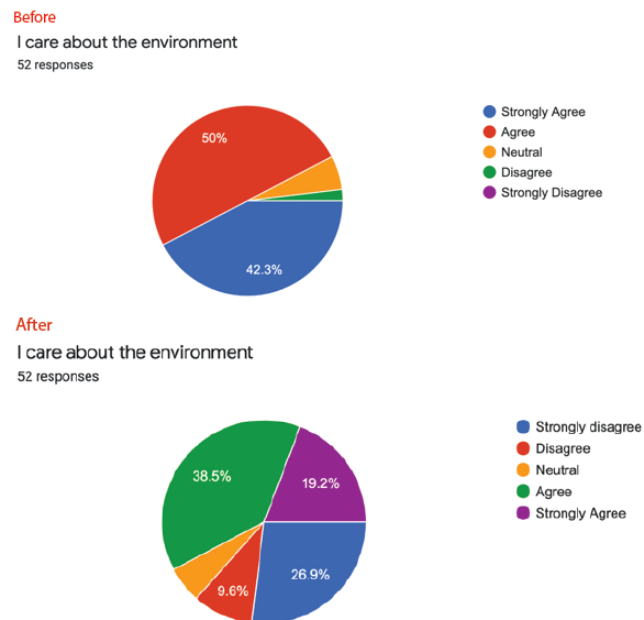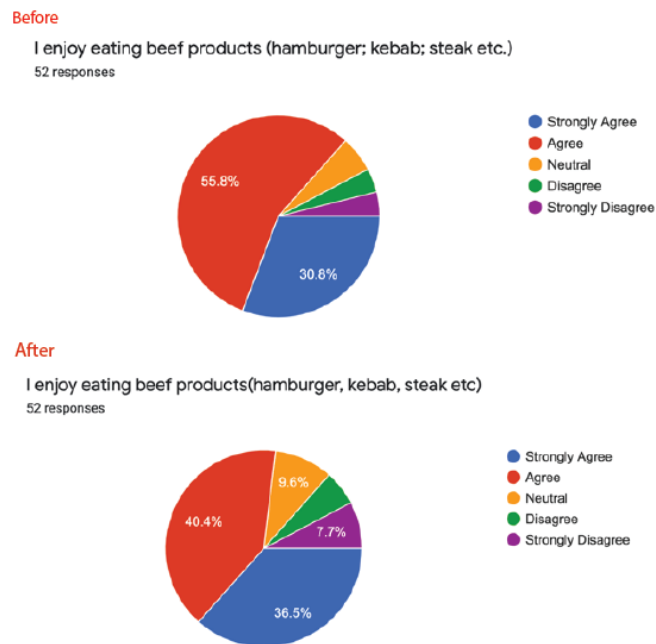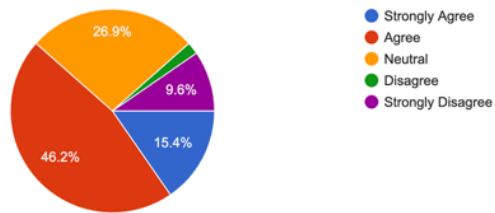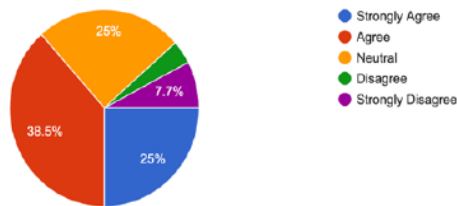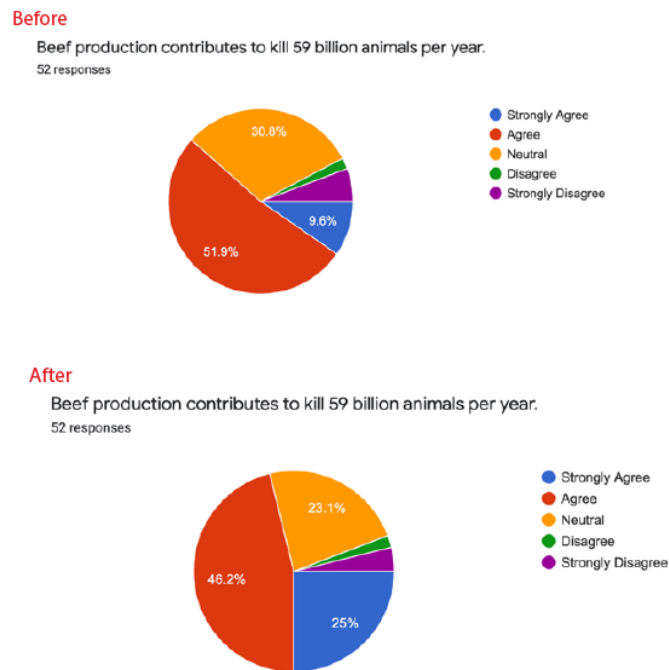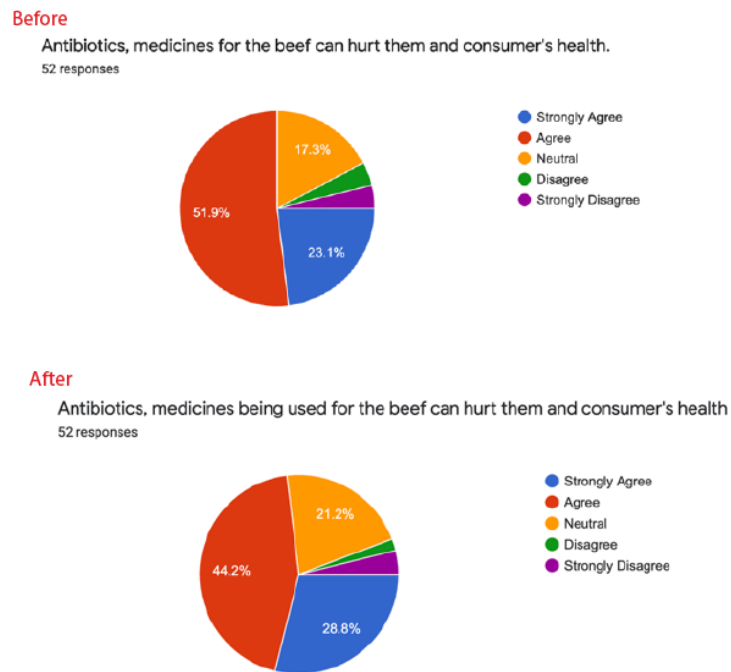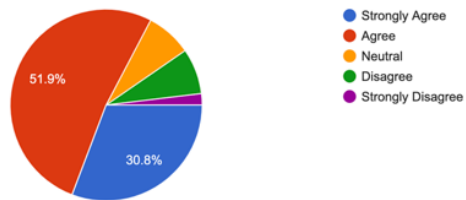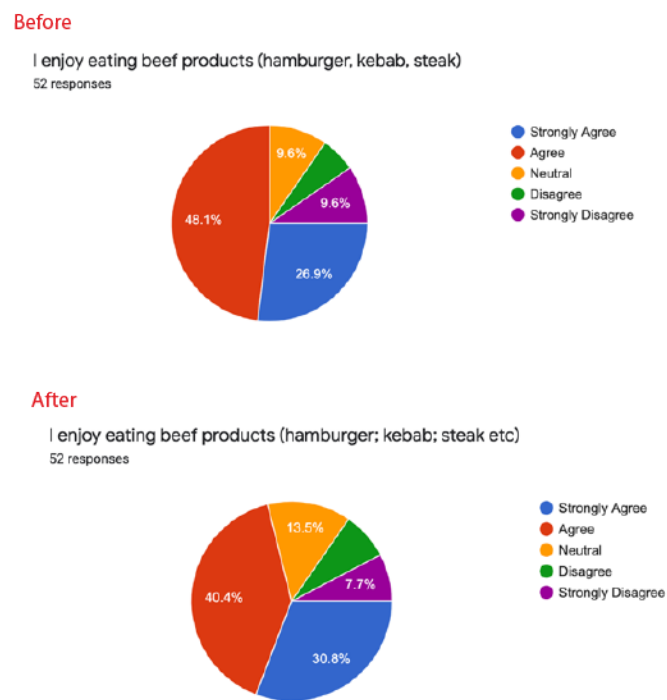Figure 4.30: The comparisons of the results of the questionnaire

4.2. Scope and Limitations

Even video is a very effective medium or method to affect human behavior, it is not the best one. Face to face communication is believed to be the best method to change people's mind. It isn't standardized but the scope of communication can be directed by the director of the communication. In this research, since we want to study on bigger sample size, we use the video design instead of the other mediums.

Other limitation about our videos is the duration of the videos. Since it is hard to watch long videos for changing perspective of videos, we have to create very short informative movies. Since we have very short time in our videos, we cannot reflect, and explain all harmful effects of beef consumption. We only use one or two side effects in our videos due to limited time. This limitation may lead bias that we cannot reflect our main idea to our sample size.

One of the problem about our method is about preparing the videos professionally. Since our budget and skills about video preparing is limited, we cannot use professional actor or actress, light effects, and movie maker programs. Our videos are amateur, and just well-designed basically. More professionally prepared videos might be more effective in changing people's mind.

The other limitation is about the sample size. Since we have limited time to measure the effects of our videos, we cannot reach huge number of populations. With higher budgets, we can spread our videos in society, and reach higher number of people. Our results cannot be expanded to all society due to a small sample size.

Our attendants' attitudes also affect our results due to the length of our survey. After collecting the feedback about our questionnaire, most of the participants warn us about the length of our test. Since it takes time to fill it, our attendants get bored at the end of the test, and their answers may not respond their real ideas.

On the another hand, we have to ask the same or very similar questions almost on every sections that people get tired and bored, so they might make up some of the answers wrongly.

4.3. Discussion

Prior to the research design which was a long questionnaire and 3 videos watching, the market research with labelling pictures had been done. The hardest thing for this questionnaire was to convince people to take the test. We could have done action design research to measure people's behaviour if it changed or not in a long term, but we will do that for the future. We just measured the respondents' awareness and reactions about the 3 videos.

The videos could have been more professional and the actors and actress would have been the famous or professional, too. The scenarios of the videos would have been different and measured which one works on people's mind more. The videos that I prepared were related with empathy of the negative consequences. There are also other methods that can change the human's perspective more effectively like face to face interviewing. Face to face counselling allows the educator to change and affect a person's awareness directly, and counselor can modify his efforts according to the participant. It is a person dependent, and not standardized method to change human's perception. One of the main downside of face to face counseling is that it is impossible to reach big communities, and make a big impact on behavior change of society.

Preparing video is based on many characteristics on health education. Video messages can be conveyed by different framing techniques which focus on loss, gain or both. In this study, when I started to write the scenarios of my videos, we found that "loss-framed messages" are very effective to promote perspective change.

Like my results, there were lots of studies that proved the effects of video usage on changing human behavior or perspectives.

Many other studies reported that watching videos resulted in significant changes in the targeted behaviors. These behaviors included condom usage, sunscreen adherence, woman breast self examination, self-care of patients after health failure [39], [40], [14], [41], [42], [43], [44].

Since breast cancer is very common in society, the researchers use video directed educative methods to decrease the breast cancer rate. Janda and her friends concluded that women participated to the video group performed breast self exams were more prone to make their breast self-exams, and realize the breast

cancer earlier [42]. Moreover, prostate cancer is also very common in society, and researchers also use video directed warnings to realize the patients. Prostate specific antigen levels were early indicators of prostate cancers, and it was a screening method. Frosch and his friends noted that people who watched a patient education video about prostate specific antigen were more likely to adapt the screening programs [45].

Calderon and his friends in 2006 resulted that HIV testing was more common in the people who watch videos. Like these researches, there were many kind of similar researchers that showed the effectiveness of videos on human behaviors. Many of them changed people's behavior, and warned for some important health issues. With the lights of these studies, we designed new techniques which warned the patients about their dietary habits. Our scenarios included warnings and information on negative effects of beef consumption on human health, environment and animal welfare. For example, previous studies warned about HIV and breast cancer, we warned my sample group by using colon cancer relationship with beef consumption. We also designed my scenario about losing water to show negative effect of beef consumption on environment. Since the video was practical medium and method to reach the millions of people, it was main structure of my design.

Since the harmful and dangerous side effects of beef consumption, many associations started to search and created new guidelines to limit beef consumption, and found alternative sources. The World Cancer Research Fund and American Institute for Cancer Research suggests that people consuming beef products should limit their intake to 4 servings per week. This is nearly 10-20 oz per week. They strongly suggest even not to eat processed or smoked beef products. This association also suggest people to find alternative sources for proteins. Mixture of cereals and groins are suggested by this association and found healthier.

American Health Association has softer suggestions for consuming beef products. They do not have strong borders to limit beef products, and they literally suggest to stick for learning cuts, and divide portions which are smaller than 6-8 oz. No association agrees that people should cut fully, and stay far from beef products. The aim of these guidelines is just to limit the intake of that

kind of products, and inform the patients.

Convincing people about limiting one kind of food leads that kind of severe health problems is really hard. People may come with an argument that lots of other factors such as health history even though we asked at the beginning of the questionnaire, sleep cycle, life quality, lifestyle, stress levels, genetics, environmental effects might be major contributor of that kind of diseases. Researchers still go on to study and find the new evidence about proving the high amounts of the beef product consumption and its connection with serious health diseases.

All these reasons may help to convince people, and they might begin to limit beef consumption and find alternative food sources. They might wish to cut back on beef products, especially smoked ones, and it is easier to focus healthier type of foods. Fruits and vegetables have high antioxidant levels, and they prevent the health problems of patients.

When we look at the other perspective of beef consumption, lots of studies show the harmful effects of beef consumption on environment. With the lights of the researches, beef is becoming more popular to fight by environment specialists. Evidences are increasing about aggregated contribution of beef production leads to environmental harmful issues such as excessive land use and harmful gas emissions. It leads to public health concerns, and important health issues.

Our selections about food influence our health status, but also have a huge impact on the environment. Animal-derived foods have higher cost and higher environmental burden, whereas the burden of vegetables is extremely low. Greenhouse gas emission and land use to produce beef creates unexpected results on environment.

When we look at from another perspective, we see that animals are being killed for pleasure of humanity. That is so merciless, and unreasonable, researchers in this study wanted to emphasize the animal welfare to create awareness in society. Increasing the production of beef for our pleasure is pitiless, and the society needs to make empathy to understand the animal nature. Researchers in this study believe that every living creature deserves to live freely.

Chapter 5
Conclusion

Reflecting on this thesis brings us to the conclusion that we should create an awareness to beef lovers, especially who don't know about its effects. Beef consumption just provides 18% of calories and nearly 40% of protein, it uses the vast majority of farm areas, and creates more than 65% of agriculture's greenhouse gas emissions. Not only on the environmental, it has also negative effect on human's heath such as colon cancer risk. From the beginning of all these issues, it is undeniable that it has a direct and huge negative impact on animal welfare. There are several ways to show negative impacts but as we can understand from this research, but video method has been used in this study to change people's mind and it is easy way to effect society and huge populations can easily be evaluated. That's why we choose the video as a medium to reach people and change their food choice. Chapter 2, Literature review explains that video is an impactful and effective media to reach huge amount of people from the all part of society. Our research videos are designed for informative and empathy-oriented video that help us affect the participants' perspective. Each topic has different but similar actions to compare them with each other.

Depending on our research, there are 3 main negative effects on beef consumption that we study on. The health issue has the most impactful effect on people's perspective change, then the animal welfare that people can make an empathy to feel how animals are suffering. More than half of the respondents (51.9%) are affected by human health video,while 48.1% of people are affected by animal welfare. The least effective video is environmental impact with 26.9%. There are several ways to encourage people to think about the beef consumption by using this paper as a guidance to affect people's food choice. On this research, participants' perspectives have been changed. According the answers from the similar and repeated question before and after the watching each video,

participants' tendency to change their food choice became obvious. Most of them didn't have any idea about how beef consumption can affect the society negatively. When we asked to some participants about their diet and food choice in a few weeks after the experiment, they said that they became more careful about their choice and decrease their meat consumption. In general, after watching the videos on our experiment, participant who consumes beef once a day, decrease from 11.5% to 9.6% after being aware of the all 3 impacts, while 19.2% of people who eats beef once in a week which is the better and ideal option, increase to 42.3%.

5.1. Participants feedback

The participants feedback was obtained from written feedback on the last section of the questionnaire. It wasn't a required section after the long questionnaire, that's why just 9 of the respondents made comments about the research. A many interesting observation in this regard was a few people that I talked after a month from the research, really cut down beef products on their diet by gaining awareness. They were afraid to be cancer if they eat beef many times per week. In general, they were thankful for the good knowledge about the beef consumption's effects on the society. They said that it was useful to share informational video that reminding about their health, their environment and animal society's feelings. Some of them really thought that they would reconsider their diet whereas, some of them thought that decreasing their beef consumption as an individual behavior wouldn't be enough to prevent the problems that we mentioned. At last, a feedback for the videos, they needed to be stronger "call-to-action message" and the quality of the acting from the actors, so new and more videos were expected.

5.2. Future Plan

Future works on this topic can expand the discussion on solutions about the society problem such as human health, environmental and animal society. There aren't any research that compared these 3 impacts and changing people's

awareness. The outcome of this research can be used for big organizations or companies to creating a movement and convince people to change their diet for the society. The research can be improved by making better videos or researching more impacts about the beef consumption to persuade people to eat less beef. Furthermore, the outcome can be used for educating young generation like children or teenagers who haven't had enough knowledge about the nutrition, eating, dietary etc. So, it will be a great tool and exploration to reach new generations for protecting themselves, their society and their environment. More professionally designed videos can be used to affect the world by using TVs, social media and other organizations. More professional actor and actress, longer and effectively planned scenarios will have huge impact on society. With higher budgets, this campaign can be spread all over the World and create awareness on high numbers of people. Many environmental specialists can be coworkers of organization. More volunteer can help to spread this campaign, and faster change in awareness can be created in very short time. Researchers in this study focused on just 3 side effects of beef products, and there are also many other aspects of consuming beef products. New scenarios can be created to point out the harmful effects of beef consumption. Also TV shows, and films can be designed, and this can help to spread the idea of saving environment. Moreover, alternative food resources can be described, and people can learn how to manage diet by reducing beef consumption. Dietitians can help and work together with environmental specialists to design the dietary guidelines. Many health organizations like WHO (World Health Organization) can be the part of this organization, and social medial endorsers can help to spread the new dietary guidelines.

References

[1] Nuri Faruk Aykan. Red meat and colorectal cancer. *Oncology Reviews*, 9(1), 2015.

[2] Doris S. M. Chan, Rosa Lau, Dagfinn Aune, Rui Vieira, Darren C. Greenwood, Ellen Kampman, Teresa Norat, and Daniel Tomé. Red and processed meat and colorectal cancer incidence: Meta-analysis of prospective studies. *PLoS ONE*, 6(6), 2011.

[3] Damian Carrington. Beef-eating 'must fall drastically' as world population grows, -12-05T10:29:38.000Z 2018. URL: `https://www.theguardian.com/environment/2018/dec/05/beef-eating-must-fall-drastically-as-world-population-grows-report`.

[4] Joachim von Braun. The world food situation: New driving forces and required actions. Food policy reports 18, International Food Policy Research Institute (IFPRI), 2007. URL: `https://EconPapers.repec.org/RePEc:fpr:fprepo:18`.

[5] Damian C. E. editor. Huge reduction in meat-eating 'essential' to avoid climate breakdown, -10-10T17:00:00.000Z 2018. For Intro. URL: `https://www.theguardian.com/environment/2018/oct/10/huge-reduction-in-meat-eating-essential-to-avoid-climate-breakdown`.

[6] Ginger Hultin. The history of vegetarian diets: Explore the progression of plant-based eating, -08-30T16:09:00+00:00 2019. URL: `https://foodandnutrition.org/from-the-magazine/the-history-of-vegetarian-diets-explore-the-progression-of-plant-based-eating/`.

[7] Hein de Vries, Emï L. M. Pajor, Kenny C. J. Curfs, Sander M. Eggers, and Anke Oenema. How to foster informed decision making about food supplements: results from an international delphi study. *Health education research*, 34(4):435–446, Aug 1, 2019. URL: `https://www.ncbi.nlm.nih.gov/pubmed/31157369`.

[8] Anastasia M. Snelling. *Introduction to Health Promotion*. John Wiley & Sons, Incorporated, Somerset, UNITED STATES, 2014. URL: `http://ebookcentral.proquest.com/lib/imperial/detail.action?docID=1767754`.

[9] Jacques Ferlay, Isabelle Soerjomataram, Rajesh Dikshit, Sultan Eser, Colin Mathers, Marise Rebelo, Donald Maxwell Parkin, David Forman, and Freddie Bray. Cancer incidence and mortality worldwide: Sources, methods and major patterns in globocan 2012. *International Journal of Cancer*, 136(5):E359–E386, 2015.

[10] Lawrence H Kushi, Colleen Doyle, Marji Mccullough, Cheryl L Rock, Wendy Demark-Wahnefried, Elisa V Bandera, Susan Gapstur, Alpa V Patel, Kimberly Andrews, and Ted Gansler. American cancer society guidelines on nutrition and physical activity for cancer prevention: reducing the risk of cancer with healthy food choices and physical activity. *CA: a cancer journal for clinicians*, 62(1):30, 2012.

[11] Jeroen Guinée, Reinout Heijungs, Arjan De Koning, Lauran Van, Theo Geerken, Mirja Van Holderbeke, Bart Jansen Vito, Peter Eder, and Luis Delgado. Environmental impact of products (eipro) analysis of the life cycle environmental impacts related to the final consumption of the eu25, 2006.

[12] Karen Lock, Joceline Pomerleau, Louise Causer, Dan R Altmann, and Martin Mckee. The global burden of disease attributable to low consumption of fruit and vegetables: implications for the global strategy on diet. *Bulletin of the World Health Organization*, 83(2):100, 2005.

[13] P Scarborough, S Allender, D Clarke, K Wickramasinghe, and M Rayner. Modelling the health impact of environmentally sustainable dietary scenarios in the uk. *European Journal of Clinical Nutrition*, 66(6):710, 2012.

[14] Michael P. Carey, Patricia Coury-Doniger, Theresa E. Senn, Peter A. Vanable, and Marguerite A. Urban. Improving hiv rapid testing rates among std clinic patients: A randomized controlled trial. *Health Psychology*, 27(6):833–838, 2008.

[15] Elke Stehfest, Lex Bouwman, Detlef Vuuren, Michel Elzen, Bas Eickhout, and Pavel Kabat. Climate benefits of changing diet. *Climatic Change*, 95(1-2):83–102, 2009.

[16] Elisabeth H M Temme, Hilko van Der Voet, Jac T N M Thissen, Janneke Verkaik-Kloosterman, Gerda van Donkersgoed, and Sanderine Nonhebel. Replacement of meat and dairy by plant-derived foods: estimated effects on land use, iron and sfa intakes in young dutch adult females. *Public health nutrition*, 16(10):1900, 2013.

[17] A. Pan, Q. Sun, A.M. Bernstein, M.B. Schulze, J.E. Manson, M.J. Stampfer, W.C. Willett, and F.B. Hu. Red meat consumption and mortality: Results from 2 prospective cohort studies. *Archives of Internal Medicine*, 172(7):555–563, 2012.

[18] Nick Wilson, Nhung Nghiem, Helen Eyles, Michael Baker, and Tony Blakely. Foods and dietary patterns that are healthy, low-cost, and environmentally sustainable: A case study of optimization modeling for new zealand. *PLoS One*, 8(3):e59648, 2013. URL: `http://search.proquest.com/docview/1330899197/`.

[19] Roderick M. Rejesus, Maria Mutuc-Hensley, Paul D. Mitchell, Keith H. Coble, and Thomas O. Knight. U.s. agricultural producer perceptions of climate change. *Journal of Agricultural and Applied Economics*, 45(4):701–718, 2013. `doi:10.1017/S1074070800005216`.

[20] Elham Darbandi and Sayed Saghaian. Beef consumption reduction and climate change mitigation. *International Journal of Food and Agricultural Economics*, 6(2):49–61, Apr 1, 2018. URL: `https://search.proquest.com/docview/2112504008`.

[21] Christopher Robinson. Livestock. *The Southern Review*, 50(3):437, Jul 1, 2014. URL: https://search.proquest.com/docview/1694520496.

[22] Jennifer Williams. More plants, less animals: Reducing beef and dairy consumption as a water conservation choice, 2017. URL: http://search.proquest.com/docview/1994155193/.

[23] Sarah A. Mummah, Abby C. King, Christopher D. Gardner, and Stephen Sutton. Iterative development of vegethon: a theory-based mobile app intervention to increase vegetable consumption. *The international journal of behavioral nutrition and physical activity*, 13(1):90, Aug 8, 2016. URL: https://www.ncbi.nlm.nih.gov/pubmed/27501724.

[24] Alan Maryon-Davis. Using the mass media to promote health. *InnovAiT*, 5(12):767–773, Dec 2012. URL: https://journals.sagepub.com/doi/full/10.1093/innovait/ins191.

[25] Helen W. Sullivan, Amie C. O'Donoghue, Jennifer Gard Read, Jacqueline B. Amoozegar, Kathryn J. Aikin, and Douglas J. Rupert. Testimonials and informational videos on branded prescription drug websites: Experimental study to assess influence on consumer knowledge and perceptions. *Journal of Medical Internet Research*, 20(1), -1-23 2018. URL: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5801518/.

[26] Rosemary J. Avery, Matthew D. Eisenberg, and Kosali I. Simon. The impact of direct-to-consumer television and magazine advertising on antidepressant use. *Journal of Health Economics*, 31(5):705–718, September 1, 2012. URL: http://www.sciencedirect.com/science/article/pii/S0167629612000562.

[27] Caroline S Dorfman, Randi M Williams, Elisabeth C Kassan, Sara N Red, David L Dawson, William Tuong, Elizabeth R Parker, Janet Ohene-Frempong, Kimberly M Davis, Alexander H Krist, Steven H Woolf, Marc D Schwartz, Mary B Fishman, Carmella Cole, and Kathryn L Taylor. The development of a web- and a print-based decision aid for prostate cancer screening. *BMC medical informatics and decision making*, 10(1):12, 2010.

[28] Michael Sweat, Carl O'Donnell, and Lydia O'Donnell. Cost-effectiveness of a brief video-based hiv intervention for african american and latino sexually transmitted disease clinic clients. *AIDS*, 15(6):781–787, 2001.

[29] M.E. Gagliano. A literature review on the efficacy of video in patient education. *Journal of Medical Education*, 63(10):785–792, 1988.

[30] Rina Sobel, Michael Paasche-Orlow, Katherine Waite, Sarah Rittner, Elizabeth Wilson, and Michael Wolf. Asthma 1-2-3: A low literacy multimedia tool to educate african american adults about asthma. *Journal of Community Health*, 34(4):321–327, 2009.

[31] Irwin M. Rosenstock. Why people use health services. *Milbank Quarterly*, 83(4), 2005.

[32] Radha Iyer. Behaviour modeling training as a training methodology. 05 2018.

[33] Helene J. Krouse. Video modelling to educate patients. *Journal of Advanced Nursing*, 33(6):748–757, 2001.

[34] Joanna E. Cohen, Jennifer Brown, Carmen Washington, Kevin Welding, Jacqueline Ferguson, and Katherine C. Smith. Do cigarette health warning labels comply with requirements: A 14-country study. *Preventive Medicine*, 93:128–134, Dec 2016. URL: `https://www.sciencedirect.com/science/article/pii/S0091743516303085`.

[35] Robert G. Brubaker and Suzanne K. Mitby. Health-risk warning labels on smokeless tobacco products: Are they effective? *Addictive Behaviors*, 15(2):115–118, 1990. URL: `https://www.sciencedirect.com/science/article/pii/030646039090014O`.

[36] Amandeep Chopra, Nanak C. Rao, Nidhi Gupta, and Shelja Vashisth. Communicating tobacco health risks: How effective are the warning labels on tobacco products? *Nigerian Medical Journal : Journal of the Nigeria Medical Association*, 55(5):411–416, 2014. URL: `https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4178339/`.

[37] SEPTEMBER2018 CIGARETTE PACKAGE and SIXTH EDI-
TION HEALTH WARNINGS. September2018 cigarette package sixth
edition health warnings.

[38] William Tuong, Elizabeth R. Larsen, and April W. Armstrong. Videos to
influence: a systematic review of effectiveness of video-based education in
modifying health behaviors. *Journal of Behavioral Medicine*, 37(2):218–233,
Apr 2014. URL: `https://doi.org/10.1007/s10865-012-9480-7`, `doi:10.`
`1007/s10865-012-9480-7`.

[39] Magaly M Blas, Isaac E Alva, Cesar P Carcamo, Robinson Cabello, Steven M
Goodreau, Ann M Kimball, and Ann E Kurth. Effect of an online video-based
intervention to increase hiv testing in men who have sex with men in peru
(online intervention in peru). *PLoS ONE*, 5(5):e10448, 2010.

[40] Yvette Calderon, E., Marianne Haughey, J., Jason Leider, J., Polly Bijur, J.,
Paul Gennis, J., and Laurie Bauman, J. Increasing willingness to be tested for
human immunodeficiency virus in the emergency department during off-hour
tours: A randomized trial. *Sexually Transmitted Diseases*, 34(12):1025–1029,
2007.

[41] Dominick L. Frosch, Robert M. Kaplan, and Vincent J. Felitti. A randomized
controlled trial comparing internet and video to facilitate patient education
for men considering the prostate specific antigen test. *Journal of General
Internal Medicine*, 18(10):781–787, 2003.

[42] Monika Janda, Catherina Stanek, Beth Newman, Andreas Obermair, and
Michael Trimmel. Impact of videotaped information on frequency and con-
fidence of breast self-examination. *Breast Cancer Research and Treatment*,
73(1):37–43, 2002.

[43] Mildred Solomon, Zeldes and William Dejong, Zeldes. The impact of a clinic-
based educational videotape on knowledge and treatment behavior of men
with gonorrhea. *Sexually Transmitted Diseases*, 15(3):127–132, 1988.

[44] Elizabeth Zimmers, Gayle Prtvette, Rosemary H Lowe, and Ferd Chappa.
Increasing use of the female condom through video instruction. *Perceptual*

and Motor Skills, 88(3_suppl):1071–1077, 1999.

[45] een analyse op basis van de and 2007-2010 voedselconsumptiepeiling. De milieudruk van ons eten.

Appendices

A. The Participant's Permission

Questionnaire about beef consumption

Dear Sir/ Madam,

My name is Hazar Gizem Peker and I am currently working on a university research project about reducing beef consumption. Your help and assistance in completing the enclosed questionnaire will be invaluable for the study. If you agree to participate, all the information you provide will be completely anonymous and confidential. The questionnaire starts by asking you about a range of issues that may affect you, your thoughts and feelings about them, and then you will continue to watch 3 short-story videos. After the videos, the second part of the questionnaire that ask you how you feel about beef consumption will be asked. If you don't want to answer all of the questions, you don't have to - please just do what you can. It shouldn't 't take long to complete, and I hope you 'll enjoy it. Once you 've completed the questionnaire, please could you return it to me. At the end of the project, key findings from the survey will be presented to the faculty members of Keio University. This survey will provide a valuable insight into my research work. Should you have any queries or concerns about the survey, please do not hesitate to contact me. Thank you very much for your help.

Yours faithfully,

Hazar Gizem Peker

`gizpek3103@gmail.com`

B. The Questionnaire

Part 1. General Information

1. Please indicate the age bracket you are in

    ☐ 20-29

    ☐ 30-39

    ☐ 40-49

    ☐ 50-59

    ☐ 59-60

2. Your gender

    ☐ Female

    ☐ Male

    ☐ Prefer not to say

    ☐ Other..

3. What is your highest qualification?

    ☐ No formal qualification

    ☐ High school

    ☐ A-level/Higher/BTEC

    ☐ Degree or equivalent

    ☐ Postgraduate qualification

    ☐ Doctoral qualification

4. Occupation

    Short answer text

5. Where are you from?

    Short answer text

6. Currently, where do you live in?

    Short answer text

7. What kind of beef products do you like the best?

   (you can choose more than one option)

   ☐ Hamburger

   ☐ Kebab

   ☐ Steak

   ☐ BBQ

   ☐ Ribs

   ☐ Any dish that contains beef

   ☐ Other..

8. Have you ever thought to be a vegetarian?

   ☐ Yes

   ☐ No

   ☐ Maybe

9. If you choose "yes", why?

   ☐ Because of my health

   ☐ Because of the animal rights

   ☐ Because of an experience/ just for try

   ☐ Other..

10. How often do you eat beef products?

    ☐ Once a day

    ☐ Once in 2 days

    ☐ Once in 3 days

    ☐ Once in 4 days

    ☐ Once in a week

    ☐ Other..

11. Which cooking method would you prefer for your beef?

☐ Grilling

☐ Barbecue

☐ Broiling

☐ Griddle

☐ Roasting

☐ Other..

12. Why do you like to eat beef?

☐ Like its taste

☐ It is healthy

☐ It has supplements of protein

☐ Easy to cook

☐ Other..

13. Where do you eat beef products at most?

☐ At home

☐ Restaurant

☐ Cafeteria

☐ Other..

14. Imagine that you are at the restaurant now, which plate would you like to choose to eat

(pictures of the each option were shown)

☐ Chicken with rice

☐ Vegetables

☐ Pasta

☐ Steak

☐ Hamburger

15. When do you eat beef products in an average day?

☐ At breakfast

☐ At lunch

☐ At dinner

☐ Anytime

16. How do you like your beef cooked?

☐ Well done

☐ Medium

☐ Rare

☐ Smoked

☐ Other..

17. How would you rate your like on beef products?

(scale question type from 0 to 10)

Dislike (0) ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   (10) Like

Part 2

1. How often do you go for a check-up?

☐ All the time(once or more than once a year)

☐ Occasionally

☐ Never

☐ Other..

2. Do you think that eating beef products like steak, burgers every day has a negative impact on health?

☐ Yes

☐ No

☐ Maybe

3. Do you know that if you eat more beef than you needed, your health might be getting worse?

☐ Strongly agree

☐ Agree

☐ Neutral

☐ Disagree

☐ Strongly Disagree

4. How likely do you want to know about the healthy portion of beef on your plate?

(scale question type from 10 to 1) (scale question type from 0 to 10)
Unlikely (0) ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ (10) Likely

5. Do you think that vegetarians are much healthier than non-vegetarians?

☐ Yes

☐ No

☐ Maybe

6. How likely can you reduce eating beef products?

(scale question type from 0 to 10)
Unlikely (0) ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ (10) Likely

7. Please choose your tendency not to eat a lot of beef products for your health

(scale question type from 0 to 10)
Unlikely (0) ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ (10) Likely

8. How important any health issue for you personally?

(scale question type from 0 to 10)
Unlikely (0) ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ (10) Likely

Please indicate how you agree or disagree with the following general statements below by ticking one box on each statement

- I would like to change my eating habit according to the World Health Organization by limiting (maximum 500 gram per week) to meat consumption.

  ☐ Strongly Agree
  ☐ Agree

☐ Neutral

☐ Disagree

☐ Strongly Disagree

- Beef products are the main cause of illnesses such as mad-cow disease, Anthrax, and Brucella.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

- Proteins that come from beef are much healthier and beneficial than the vitamins and proteins from vegetables.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

- If there are the other alternatives for beef products, I would like to change my diet.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

- I would like to limit my diet to consume beef products (3 portions per week) for my health.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

- I care about my health.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

- I enjoy eating beef products such as hamburger, steak, kebab etc.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

Please watch the 1st video carefully and then continue with the questionnaire.

Part 3

1. Please indicate your feelings on the story that you watched.

Excited	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Satisfied	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Bored	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Afraid	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Useful	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Nervous	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

2. Please rate how do you feel about beef and its products?

   (scale question type from 0 to 10)
   Dislike (0) ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   (10) Like

3. How likely can you reduce eating beef products?

   (scale question type from 0 to 10)
   Unlikely (0) ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   (10) Likely

4. Do you think that vegetarians are much healthier than non-vegetarians?

☐ Yes

☐ No

☐ Maybe

5. How likely will you limit your eating habits about beef products?

(scale question type from 0 to 10)

Unlikely (0) ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐ (10) Likely

6. How likely will you reduce eating beef products?

(scale question type from 0 to 10)

Unlikely (0) ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐ (10) Likely

7. How important are the following issue for you personally?

(scale question type from 0 to 10)

Not Important (0) ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐ (10) Important

8. Do you think that eating beef products like steak,burger in every day is a problem for the health?

☐ Yes

☐ No

☐ Maybe

9. Please choose your tendency not to eat a lot of beef for your health

(scale question type from 0 to 10)

Unlikely (0) ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐ (10) Likely

10. Are you aware that if you eat more beef than you needed, your health might be getting worse?

☐ Yes

☐ No

☐ Maybe

11. How likely are you willing to change your eating habit?

(scale question type from 0 to 10)

Unlikely (0) ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐ (10) Likely

Please indicate how you agree or disagree with the following general statements below
by ticking one box on each statement

- I would like to change my eating habit according to the World Health Organization
  by limiting (maximum 500 gram per week) to meat consumption.

    ☐ Strongly Agree

    ☐ Agree

    ☐ Neutral

    ☐ Disagree

    ☐ Strongly Disagree

- Beef products are the main cause of illness such as mad-cow disease, Antrax, and
  Brucella.

    ☐ Strongly Agree

    ☐ Agree

    ☐ Neutral

    ☐ Disagree

    ☐ Strongly Disagree

- Proteins that come from beef are much healthier and beneficial than the vitamins
  and proteins from vegetables.

    ☐ Strongly Agree

    ☐ Agree

    ☐ Neutral

    ☐ Disagree

    ☐ Strongly Disagree

- If there are the other alternatives for beef products, I would like to change my
  diet.

    ☐ Strongly Agree

    ☐ Agree

☐ Neutral

☐ Disagree

☐ Strongly Disagree

- I would like to limit my diet to consume beef products (3 portions per week) for my health.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

- I have started to think about caring my health more.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

- I enjoy eating beef products such as hamburger, steak, kebab etc.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

Part 4

1. Are you part of any organization about the environment?

   ☐ Yes

   ☐ No

2. How do you feel about the environment issues? Like climate change..

   ☐ Afraid

   ☐ Sensitive

   ☐ Not Interested

   ☐ Positive

   ☐ Just aware

   ☐ Careful

   ☐ Other..

3. Do you think that eating habits can affect the environment?

   ☐ Yes

   ☐ No

   ☐ Maybe

4. Do you think that eating beef products like steak, burger in every day is a problem for the environment?

   ☐ Yes

   ☐ No

   ☐ Maybe

5. How important is the following issue (environment) for you personally?

   (scale question type from 0 to 10)
   Not Important (0) ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ (10) Really Important

6. Please choose the tendency not to eat lot of beef for environment

   (scale question type from 0 to 10)
   Extremely Unlikely (0) ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ (10) Extremely Likely

7. How likely are you willing to change your eating habit for environmental issues?

   (scale question type from 0 to 10)
   Unlikely (0) ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ (10) Likely

8. How important any environmental issue for you, personally?

   (scale question type from 0 to 10)

   Not Important at all (0) ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐ (10)
   Extremely Important

Please indicate how you agree or disagree with the following general statements below
by ticking one box on each statement

- I would like to change my eating habits to plant-based products instead of consuming beef in order to save nature.

    ☐ Strongly Agree

    ☐ Agree

    ☐ Neutral

    ☐ Disagree

    ☐ Strongly Disagree

- Eating less beef can save the environment.

    ☐ Strongly Agree

    ☐ Agree

    ☐ Neutral

    ☐ Disagree

    ☐ Strongly Disagree

- Eating less beef can save the environment.

    ☐ Strongly Agree

    ☐ Agree

    ☐ Neutral

    ☐ Disagree

    ☐ Strongly Disagree

- Eating vegan or vegetarian food even just once a week has a huge impact on the environment.

☐ Strongly Agree

☐ Agree

☐ Neutral

☐ Disagree

☐ Strongly Disagree

- Beef production contributes to decreasing %80 of the Amazonian rain forest.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

- 144 hamburgers per year=more than 100,000 gallons of water per year.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

- I can change my eating habit according to the World Health Organization by limiting (500 gram per week) to meat consumption.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

- If there are the other alternatives for beef products, I would like to change my diet.

  ☐ Strongly Agree

☐ Agree

☐ Neutral

☐ Disagree

☐ Strongly Disagree

- I would like to limit my diet to eating beef products(3 portions per week) for the environment.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

- I care about the environment.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

- I enjoy eating beef products(hamburger; kebab; steak etc.)

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

Please watch the 2nd video carefully and then continue with the questionnaire.

Part 5

1. Please indicate your feelings on the story that you watched.

   Excited   □ 0   □ 1   □ 2   □ 3   □ 4   □ 5
   Satisfied   □ 0   □ 1   □ 2   □ 3   □ 4   □ 5
   Bored   □ 0   □ 1   □ 2   □ 3   □ 4   □ 5
   Afraid   □ 0   □ 1   □ 2   □ 3   □ 4   □ 5
   Useful   □ 0   □ 1   □ 2   □ 3   □ 4   □ 5
   Nervous   □ 0   □ 1   □ 2   □ 3   □ 4   □ 5

2. Please rate how do you feel about eating beef after the second video?

   (scale question type from 0 to 10)

   Dislike (0) □   □   □   □   □   □   □   □   □   □   □ (10) Like

3. How likely are you willing to change your eating habit for environmental issues?

   (scale question type from 0 to 10)

   Unlikely (0) □   □   □   □   □   □   □   □   □   □   □ (10) Likely

4. How likely will you limit your eating habits about beef products?

   (scale question type from 0 to 10)

   Unlikely (0) □   □   □   □   □   □   □   □   □   □   □ (10) Likely

5. How likely will you reduce eating beef product?

   (scale question type from 0 to 10)

   Unlikely (0) □   □   □   □   □   □   □   □   □   □   □ (10) Likely

6. Please choose your tendency not to eat a lot of beef for the environment.

   (scale question type from 0 to 10)

   Unlikely (0) □   □   □   □   □   □   □   □   □   □   □ (10) Likely

Please indicate how you agree or disagree with the following general statements below
by ticking one box on each statement

- I would like to change my eating habits to plant-based products instead of consuming beef in order to save nature.

    □ Strongly Agree

☐ Agree

☐ Neutral

☐ Disagree

☐ Strongly Disagree

- Eating less beef can save the environment.

    ☐ Strongly Agree

    ☐ Agree

    ☐ Neutral

    ☐ Disagree

    ☐ Strongly Disagree

- I would like to change my eating habit according to World Health Organization by limiting (500gram per week) to meat consumption.

    ☐ Strongly Agree

    ☐ Agree

    ☐ Neutral

    ☐ Disagree

    ☐ Strongly Disagree

- Eating vegan or vegetarian food even just once a week has a huge impact on the environment.

    ☐ Strongly Agree

    ☐ Agree

    ☐ Neutral

    ☐ Disagree

    ☐ Strongly Disagree

- Beef production contributes to decrease %80 Amazonian rain forest.

    ☐ Strongly Agree

    ☐ Agree

☐ Neutral

☐ Disagree

☐ Strongly Disagree

- 144 hamburgers per year= more than 100,000 gallons of water per year

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

- If there are other alternatives for beef products, I would like to change my diet.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

- I would like to limit my diet about eating beef products (3 portions per week) for the environment.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

- I care about the environment.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

☐ Disagree

☐ Strongly Disagree

- I care about the environment.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

- I enjoy eating beef products(hamburger, kebab, steak etc).

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

Part 6

1. Do you care about animal rights?

   ☐ Yes

   ☐ No

   ☐ Sometimes

2. Do you care about how animals are been slaughtered for beef products?

   ☐ Yes

   ☐ No

   ☐ Sometimes

3. Do you like animals?

   ☐ Yes

☐ No

☐ Some of them

4. Do you think that eating beef products like steak, burger in every day is a problem for animal welfare?

☐ Yes

☐ No

☐ Maybe

5. Please choose your tendency not to eat a lot of beef for animal rights.

(scale question type from 0 to 10)

Unlikely (0) ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐ (10) Likely

6. How important any animal welfare for you, personally?

(scale question type from 0 to 10)

Not important at all (0) ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐ (10) Extremely Important

Please indicate how you agree or disagree with the following general statements below by ticking one box on each statement

- World Health Organization has limited meat consumption(maximum 500 gram per week).

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

- Beef production contributes to kill 59 billion animals per year.

  ☐ Strongly Agree

  ☐ Agree

101

☐ Neutral

☐ Disagree

☐ Strongly Disagree

- Antibiotics, medicines for the beef can hurt them and consumer's health.

    ☐ Strongly Agree

    ☐ Agree

    ☐ Neutral

    ☐ Disagree

    ☐ Strongly Disagree

- When purchasing beef, it is important to know who produces it.

    ☐ Strongly Agree

    ☐ Agree

    ☐ Neutral

    ☐ Disagree

    ☐ Strongly Disagree

- If there are the other alternatives for beef products, I would like to change my diet.

    ☐ Strongly Agree

    ☐ Agree

    ☐ Neutral

    ☐ Disagree

    ☐ Strongly Disagree

- I would like to limit my diet about eating beef products(3 portions per week) for the animal welfare.

    ☐ Strongly Agree

    ☐ Agree

    ☐ Neutral

☐ Disagree

☐ Strongly Disagree

- I care about the animal welfare.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

- I enjoy eating beef products (hamburger,kebab, steak etc.)

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

Please watch the 3rd video carefully and then continue with the questionnaire.

Part 7

1. Please indicate your feelings on the story that you watched.

Excited	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Satisfied	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Bored	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Afraid	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Useful	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Nervous	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

2. Please rate how do you feel about eating beef after the third video?

   (scale question type from 0 to 10)

   Dislike (0) ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ (10) Like

103

3. How likely will you limit your eating habits about beef products?

    (scale question type from 0 to 10)

    Unlikely (0) ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐ (10) Likely

4. How likely would you like to reduce eating beef related products?

    Unlikely (0) ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐ (10) Likely

5. Please choose your tendency not to eat a lot of beef for animal welfare.

    Unlikely (0) ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐ (10) Likely

6. How important are the following issue for you personally?

    Unlikely (0) ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐ (10) Likely

Please indicate how you agree or disagree with the following general statements below
by ticking one box on each statement

- World Health Organization has limited meat consumption(maximum 500 gram per week).

    ☐ Strongly Agree

    ☐ Agree

    ☐ Neutral

    ☐ Disagree

    ☐ Strongly Disagree

- Beef production contributes to kill 59 billion animals per year.

    ☐ Strongly Agree

    ☐ Agree

    ☐ Neutral

    ☐ Disagree

    ☐ Strongly Disagree

- Antibiotics, medicines for the beef can hurt them and consumer's health.

    ☐ Strongly Agree

☐ Agree

☐ Neutral

☐ Disagree

☐ Strongly Disagree

- When purchasing beef, it is important to know who produces it.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

- If there are other alternatives rather than beef products, I would like to change my diet.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

- I would like to limit my diet about eating beef products(3 portions per week)for the animal welfare.

  ☐ Strongly Agree

  ☐ Agree

  ☐ Neutral

  ☐ Disagree

  ☐ Strongly Disagree

- I care about the animal welfare.

  ☐ Strongly Agree

  ☐ Agree

☐ Neutral

☐ Disagree

☐ Strongly Disagree

- I enjoy eating beef products (hamburger; kebab; steak etc).

    ☐ Strongly Agree

    ☐ Agree

    ☐ Neutral

    ☐ Disagree

    ☐ Strongly Disagree

Part 8

1. Imagine that you are at the restaurant now, which plate would you like to choose to eat

    (pictures of the each option were shown)

    ☐ Chicken with rice

    ☐ Vegetables

    ☐ Pasta

    ☐ Steak

    ☐ Hamburger

2. How would you feel about eating beef in overall?

    (scale question type from 0 to 10)
    Dislike (0) ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐ (10) Like

3. Which story(video) affects you at most?

    (You can choose more than one option)

    ☐ 1.video: human health

    ☐ 2.video: environmental impact

    ☐ 3.video: animal welfare

4. Please indicate which part of that story triggers your decision?

   Short answer text

5. How often would you like to eat beef after today?

   ☐ Once a day

   ☐ Once in 2 days

   ☐ Once in 3 days

   ☐ Once in 4 days

   ☐ Once in a week

6. How will you change your eating habit on beef products?

   ☐ Decrease eating beef products

   ☐ Not eating beef products anymore

   ☐ Thinking about it

   ☐ Don't change my diet

   ☐ Increase eating beef products

   ☐ Other..

7. Will you consider to change your eating habits on beef products?

   ☐ Yes

   ☐ No

   ☐ Maybe

8. Would you like to be a vegetarian/vegan?

   ☐ Yes

   ☐ No

   ☐ Maybe

9. How important are the these issues for you personally? (scale question type from 0 to 10)
   Not Important at all (0) ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐ (10) Extremely Important

107

10. Would you like to purchase beef products in the future?

    ☐ Yes

    ☐ No

    ☐ Maybe

11. How likely will you limit your eating habit on beef products? (scale question type from 0 to 10)
    Unlikely (0) ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐ (10) Likely

12. How likely are you willing to change your eating habit? (scale question type from 0 to 10)
    Unlikely (0) ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐   ☐ (10) Likely

The End!. Thank you for your participation and time.
If you have anything to add about these issues raised in this questionnaire or any
other comments about the questionnaire itself, please write them below.