



What Are the Benefits of Shokuiku (Food and Nutrition Education)?

What We Know Based on Evidence

**Combined
Version**





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<How to Use This Pamphlet>

- You can print this pamphlet and distribute it however you like. It can be used on any occasions aimed at promoting shokuiku.
- When using one of the studies covered in this pamphlet, please read the original paper and indicate the information of the paper (author, title, publication year, etc.).



1

Introduction

In accordance with the Third Basic Plan for the Promotion of Shokuiku that took effect in FY2016, Japan has put in efforts to solve the priority issues and achieve goals outlined in said Plan, with a view to deepening public understanding of shokuiku.

Since the Basic Act on Shokuiku (Food and Nutrition Education) was enacted in 2005, communities and schools across the country have taken various initiatives to promote shokuiku. In order to further enhance the effectiveness of such efforts for solving issues and achieving goals, it is important to share information and findings based on evidence.

In this view, the Ministry of Agriculture, Forestry and Fisheries (MAFF) has issued two pamphlets on shokuiku (one in FY2017 and the other in FY2018). Created under collaboration with external food education and PR experts, these pamphlets introduce to the public evidence collected, analyzed, and summarized in an easy-to-understand manner by MAFF that can serve to promote shokuiku. This pamphlet is a combined version of the two pamphlets issued over those two years.

We hope that the message of this pamphlet will be delivered to a wide range of groups in the public through those who are interested in shokuiku and those who are implementing shokuiku initiatives. In addition, the messages in this pamphlet are supported by research studies. If you are interested in learning more details, we recommend you to refer to the evidence tables and cited papers.

2

To Promote the Third Basic Plan for the Promotion of Shokuiku

- Japan adopted the Third Basic Plan for the Promotion of Shokuiku (hereinafter referred to as the “Third Basic Plan”) in March 2016 with a view to advancing shokuiku measures in a comprehensive and strategic manner.
- The Third Basic Plan provides the policies and goals to be aimed for over the five years from FY2016 to FY2020.
- Among the fifteen goals set out in the Third Basic Plan, this pamphlet focuses on the following five goals, which can be categorized into four groups according to their themes, and explains why these goals are important and the benefits of working toward them.

Goals set out in the Third Basic Plan covered in this pamphlet	Theme according to which evidence was collected
Increase the number of kyōshoku occasions [breakfast or dinner with family members] (Goal 2)	What are the benefits of kyōshoku? (Hereinafter, this topic will be referred to as “Kyōshoku.”)
Increase the percentage of citizens participating in kyōshoku in communities as they hope to (Goal 3)	
Decrease the percentage of children skipping breakfast (Goal 4)	What are the benefits of having breakfast every morning? (Hereinafter, this topic will be referred to as “Breakfast.”)
Increase the number of citizens having a balanced diet (Goal 7)	What are the benefits of having a balanced diet? (Hereinafter, this topic will be referred to as “Balanced Diet.”)
Increase the number of citizens who have agriculture, forestry or fishery experience (Goal 11)	What are the benefits of having agriculture, forestry and fishery experience? (Hereinafter, this topic will be referred to as “Agriculture, Forestry or Fishery Experience.”)

Third Basic Plan for the Promotion of Shokuiku (MAFF website):<http://www.maff.go.jp/j/syokuiku/kannrenhou.html>

(Reference) Goals for the promotion of shokuiku set out in the Third Basic Plan for the Promotion of Shokuiku

	Goal	Criteria	Figures as of the issuance of the Third Basic Plan	Target (FY2020)
1	Increase the number of citizens who are interested in shokuiku	Percentage of citizens who are interested in shokuiku	75.0%	90% or higher
2	Increase the number of kyōshoku occasions [breakfast or dinner with family members]	Number of kyōshoku occasions [breakfast or dinner with family members]	9.7 times a week	11 times a week or more
3	Increase the percentage of citizens participating in kyōshoku in communities as they hope to	Percentage of citizens participating in kyōshoku in communities as they hope to	64.6%	70% or higher
4	Decrease the percentage of children skipping breakfast	Percentage of children skipping breakfast	4.4%	0%
		Percentage of young people skipping breakfast	24.7%	15% or lower
5	Increase the percentage of junior high schools that provide school lunches	Percentage of junior high schools that provide school lunches	87.5% (FY2014)	90% or higher
6	Increase the percentage of use of locally produced food in school lunches	Percentage of use of locally produced food in school lunches	26.9% (FY2014)	30% or higher
		Percentage of use of domestically produced food in school lunches	77.3% (FY2014)	80% or higher
7	Increase the number of citizens having a balanced diet	Percentage of citizens who eat at least two well-balanced meals consisting of staple food, a main dish, and side dishes almost every day	57.7%	70% or higher
		Percentage of young citizens who eat at least two well-balanced meals consisting of staple food, a main dish, and side dishes almost every day	43.2%	55% or higher
8	Increase the percentage of citizens who practice a healthy diet from day to day where they take care to maintain an appropriate weight and limit salt intake in order to prevent or treat lifestyle diseases	Percentage of citizens who practice a healthy diet from day to day where they take care to maintain an appropriate weight and limit salt intake in order to prevent or treat lifestyle diseases	69.4%	75% or higher
		Number of registered companies striving to reduce salt and fat in their food products	67 (FY2014)	100 companies or more
9	Increase the percentage of citizens who take time to eat and chew well	Percentage of citizens who take time to eat and chew well	49.2%	55% or higher
10	Increase the number of volunteers engaging in the promotion of shokuiku	Number of citizens participating in volunteer groups that promote shokuiku	344,000 (FY2014)	370,000 or more
11	Increase the number of citizens who have agriculture, forestry or fishery experience	Percentage of citizens who have agriculture, forestry or fishery experience	36.2%	40% or higher
12	Increase the number of citizens who take action to reduce food loss	Percentage of citizens who take action to reduce food loss	67.4% (FY2014)	80% or higher
13	Increase the percentage of citizens who have received and pass on traditional cuisine and table manners from their communities or families	Percentage of citizens who have received and pass on traditional cuisine and table manners from their communities or families	41.6%	50% or higher
		Percentage of young citizens who have received and pass on traditional cuisine and table manners from their communities or families	49.3%	60% or higher
14	Increase the percentage of citizens who have basic knowledge on food safety and are able to make appropriate decisions based on it	Percentage of citizens who have basic knowledge on food safety and are able to make appropriate decisions based on it	72.0%	80% or higher
		Percentage of young citizens who have basic knowledge on food safety and are able to make appropriate decisions based on it	56.8%	65% or higher
15	Increase the percentage of municipalities that have created and implemented the Municipal Plan for the Promotion of Shokuiku	Percentage of municipalities that have created and implemented the Municipal Plan for the Promotion of Shokuiku	76.7%	100%

To Correctly Understand the Messages of This Pamphlet

■ The evidence included in this pamphlet is based on papers that MAFF collected with cooperation of researchers specializing in the field of shokuiku. All the papers meet the following criteria.

- The study was conducted with healthy Japanese subjects excluding babies. (As for overseas review articles concerning the topic “Agriculture, Forestry or Fishery Experience,” the study was conducted with healthy subjects excluding babies. Studies whose main subjects are people with injury, disease, or disabilities are excluded.)
- The study was subject to an expert review when posted (bulletins do not qualify).
- For the topics “Breakfast,” “Balanced Diet,” “Agriculture, Forestry or Fishery Experience (1),” the study was published between January 1, 2000, and September 30, 2017.
- For the topics “Kyōshoku,” “Balanced Diet,” “Agriculture, Forestry or Fishery Experience (2) and (3),” the study was published between January 1, 2000 and September 30, 2017.

• Content of the paper

- Kyōshoku: The study examines matters related to kyōshoku or koshoku (eating alone) and includes a statistical analysis of factors*1 that can help increase kyōshoku or decrease koshoku.
- Breakfast: The paper examines matters related to having or skipping breakfast and includes descriptions of factors that can help increase the number of people who have breakfast or decrease the number of those who skip breakfast (relationship between health and nutritious condition and the intake of nutrients and food).
- Balanced Diet:
 - (1) The paper includes descriptions about the relationship between health and nutritional condition and a diet that combines staple food, a main dish, and side dishes.
 - (2) The paper examines matters related to dietary patterns and food quality scores and includes descriptions about their relationship with the total mortality and non-infectious diseases, such as cancer and cardiovascular disease.
- Agriculture, Forestry or Fishery Experience:
 - (1) The paper studies farming or food and agricultural experience and includes descriptions related to consciousness about diet or eating behavior.
 - (2) (Studies using Japanese subjects) The paper examines how agricultural, forestry, or fishery experience*2 is related to dietary knowledge, dietary attitude, eating behavior, physical activity, or health.
 - (3) (Overseas review articles) The main purpose of the paper is to examine how agricultural, forestry, or fishery experience*2 is related to dietary knowledge, dietary attitude, eating behavior, physical activity, or health.

*1 This term refers to quality of life (QOL), health and nutritional condition, food intake, eating behavior, and lifestyle habits. Food knowledge and eating attitude are excluded.

*2 This term also includes the cultivation of crops consumed in day-to-day life (such as home gardens). It excludes experience opportunities for professional farmers and programs whose main focus is something other than food.

■ As for the topics “Kyōshoku,” “Breakfast,” and “Balanced Diet,” this pamphlet only uses observational studies, in which lifestyle habits and diseases of research subjects are observed and compared. The papers used in relation to the topic “Agriculture, Forestry or Fishery Experience” include some interventional studies, in which participants receive some kind of intervention and the effect of such intervention is examined. However, attention must be paid when interpreting the results of such studies, as some of them were conducted only with a small number of subjects.

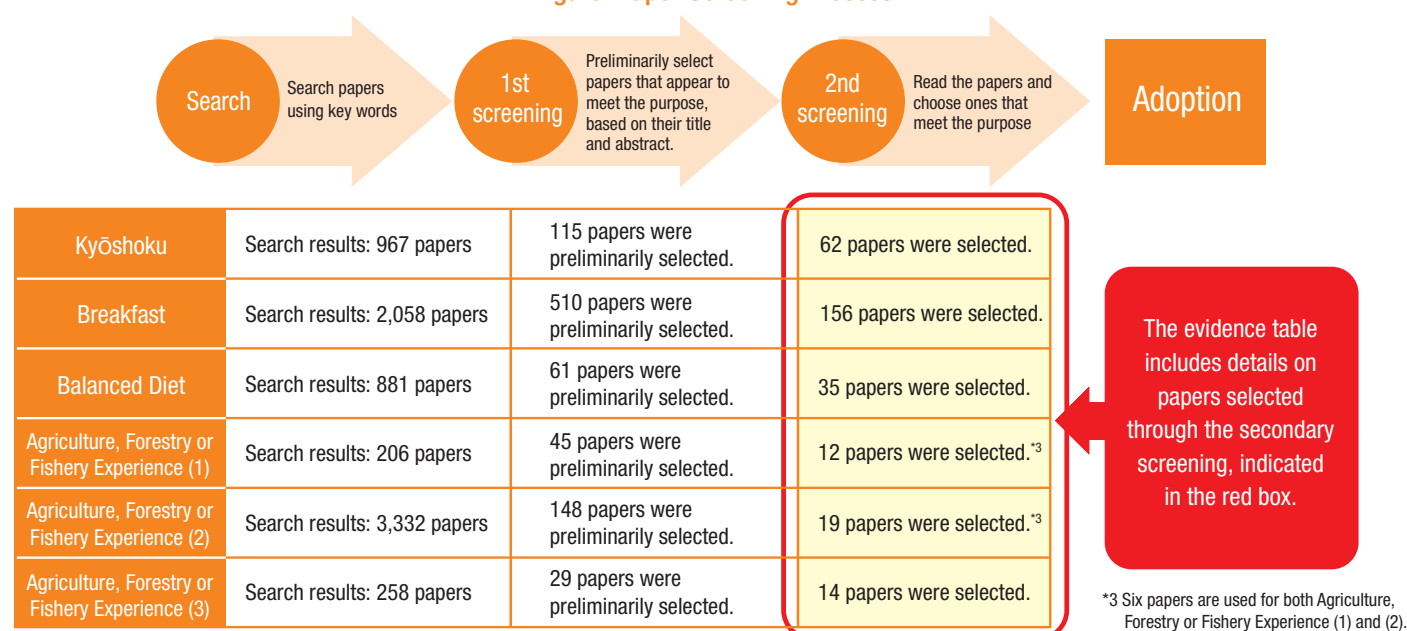
■ MAFF selected from among many papers ones that matched the purpose and fulfilled all the criteria. The list of the selected papers is publicized as an evidence table. The papers used in this pamphlet include not only those where a relationship between subject matters was shown, but also those where a lack of a relationship was shown and those where a relationship was not confirmed.

■ This pamphlet mainly covers study results from papers that fulfilled the abovementioned criteria, which can contribute to the promotion of shokuiku. This means that it only covers a part of the research results. If you are interested in learning more details, please download the evidence table from MAFF website.

MAFF website: <http://www.maff.go.jp/j/syokuiku/evidence/index.html>

■ The article numbers shown in the footnotes on each page correspond to the numbers in the evidence table.

Figure. Paper Screening Process



1

What Are the Benefits of Kyōshoku?

How is kyōshoku or avoiding koshoku related to our lives? Here's what we found out based on studies conducted with Japanese people.



Benefits of Kyōshoku



- Kyōshoku is related to a sense of well-being.
.....
- Kyōshoku is related to healthy eating.
.....
- Kyōshoku is related to having a regular eating pattern.
.....
- Kyōshoku is related to having an orderly life.
.....

What Is Kyōshoku?

- The term “kyōshoku” appearing in this pamphlet means to eat with someone. This “someone” can be your whole family or some family members (like parents), friends, or relatives. The scope and number of persons with whom the subjects eat with vary from study to study.

- For details, see the evidence table.

Evidence Table (MAFF website):

<http://www.maff.go.jp/j/syokuiku/evidence/index.html>



Kyōshoku is related to a sense of well-being.

Studies show that kyōshoku is related to a sense of well-being.

Benefits of Kyōshoku

Compared to those who often eat alone (koshoku), people who practice kyōshoku more frequently tend to...



- ① Feel less tired in the morning, get sick less often, and evaluate their own health more positively (studies with elementary school students).^{*1}
- ② Have better mental health (studies with junior high school students).^{*2}
- ③ Feel less stress and see themselves as healthy (studies with adults and older people).^{*3} In addition, studies also report that older people who often eat alone have a higher chance of falling into depression.^{*4}



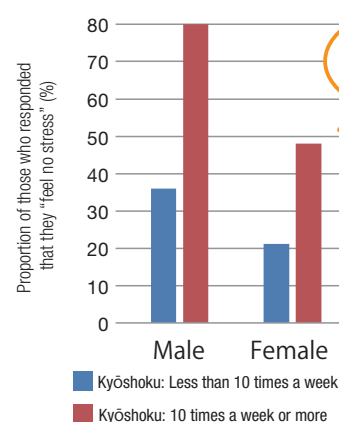
Research Note

Many people who often practice kyōshoku feel no stress!?

Who were the subjects?	935 citizens aged 20 years or older living in City S, Osaka Prefecture
What was this study about?	The relationship between the frequency of eating breakfast or dinner with the family (number of times) and the presence or absence of stress
What was found out?	Among women in their 20s and 30s, the rate for responding “feel no stress” was higher among the group who said that they have breakfast or dinner with someone at least 10 times a week, compared to the other group.

AKARI Yoshihiro, et al. (2015), “The Relationship between the Frequency of Eating with Family, Lifestyles, Societal Participation, and Psychological Health among Adults by Age and Gender,” The Japanese Journal of Nutrition and Dietetics, 73 (6), p. 243-252 [Article No. 50]. (The figure was created based on Table 3.)

Relationship between the number of kyōshoku occasions with family and stress (20s and 30s)



*1 Article No. (Kyōshoku): 12, 17, 18, 23

*2 Article No. (Kyōshoku): 26, 27, 36

*3 Article No. (Kyōshoku): 4, 50, 55, 61, 62

*4 Article No. (Kyōshoku): 55, 59

The list of articles can be found here (MAFF website): <http://www.maff.go.jp/j/syokuiku/evidence/index.html>

Kyōshoku is related to healthy eating.

Studies show that kyōshoku is related to healthy eating.

Benefits of Kyōshoku

Compared to those who often eat alone (koshoku), people who practice kyōshoku more frequently tend to...

- ① Eat more healthy food, such as vegetables and fruits, and consume less instant foods, fast foods, and soft drinks.*¹
- ② Eat a more balanced diet consisting of staple food, a main dish and side dishes (studies with infants and elementary school students).^{*2}
- ③ Eat more diverse kinds of food (studies with junior high school students and older people).^{*3}



Research Note

Older people living alone who eat with someone more frequently tend to eat diverse kinds of food!?

Who were the subjects?	2,196 elderly people aged 65-90 (752 males and 1,444 females) living alone in seven municipalities across Japan
What was this study about?	The study examined the relationship between the frequency of kyōshoku (meaning eating with someone, such as friends and relatives), and the food intake diversity score. The score was measured by looking at how many of 10 kinds of food the subjects responded that they eat "every day."
What was found out?	Compared to the subjects who practice kyōshoku less than once a month, males who practice kyōshoku more frequently are more likely to eat meat, brightly colored vegetables, potatoes, fruits and oils and fats, while females tend to have higher diversity scores.

ISHIKAWA Midori et al. (2017), "Eating Together Is Associated with Food Behaviors and Demographic Factors of Older Japanese People Who Live Alone," Journal of Nutrition, Health and Aging, 21 (6), p. 662-672 [Article No. 61].
(The figure was created based on Tables 2-1 and 2-2.)

Relationship between the frequency of kyōshoku and the diversity of food intake



*1 Article No. (Kyōshoku): 3, 21, 22, 25, 30, 37, 39, 51, 57, 58, 61

*2 Article No. (Kyōshoku): 7, 11

*3 Article No. (Kyōshoku): 27, 55, 61

The list of articles can be found here (MAFF website): <http://www.maff.go.jp/j/syokuiku/evidence/index.html>

Kyōshoku is related to having a regular eating pattern.

Studies show that kyōshoku is related to having a regular eating pattern.

Benefits of Kyōshoku

Compared to those who often eat alone (koshoku), people who practice kyōshoku more frequently tend to...

- ① Have a regular eating pattern (for meals and snacks) (studies with infants).^{*1}
- ② Skip breakfast less often (studies with elementary school students and elderly people).^{*2}



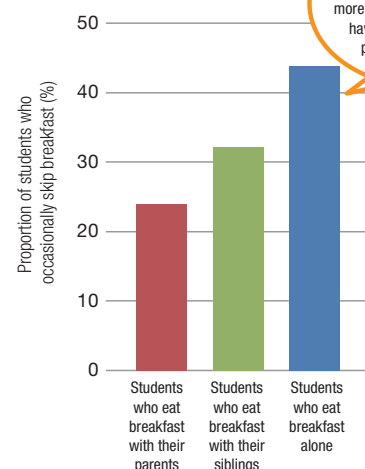
Research Note

Junior high school students who eat alone tend to skip breakfast!?

Who were the subjects?	3,635 junior high school students in Shunan City, Yamaguchi Prefecture
What was this study about?	The study examined whether the subjects eat breakfast and the persons with whom they often eat breakfast on school days (kyōshoku partner).
What was found out?	Students who eat breakfast alone tended to skip breakfast more often than students who have breakfast with their parents and siblings.

SUGIYAMA Shinichi et al. (2012), "Breakfast habits among adolescents and their association with daily energy and fish, vegetable, and fruit intake: a community-based crosssectional study," Environmental Health and Preventive Medicine, 17 (5), p. 408-414 [Article No. 30]. (The figure was created based on Table 1)

Relationship between kyōshoku with family and skipping breakfast



^{*1} Article No. (Kyōshoku): 3, 5, 6

^{*2} Article No. (Kyōshoku): 7, 10, 20, 22, 30, 48, 52

The list of articles can be found here (MAFF website): <http://www.maff.go.jp/j/syokuiku/evidence/index.html>

Kyōshoku is related to having an orderly life.

Studies show that kyōshoku is related to having an orderly life.

Benefits of Kyōshoku

Compared to those who often eat alone (koshoku), people who practice kyōshoku more frequently tend to...

- ① Wake up and go to bed earlier.^{*1}
- ② Sleep for longer (studies with elementary school students).^{*2}



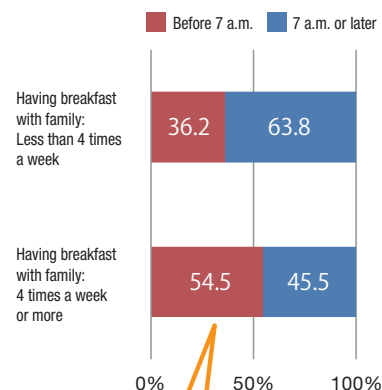
Research Note

Children who often eat with their families go to bed and get up earlier, and eat meals and snacks at regular times!?

Who were the subjects?	524 mothers with children aged 3 years or older at ten kindergartens and ten nursery schools in Tokyo.
What was this study about?	The study examined the relationship between the frequency of having breakfast with family and the children's wake-up time and bedtime.
What was found out?	The group of children who eat breakfast with their family 4 days a week or more included more of those who wake up before 7:00 a.m. and go to bed before 9:00 p.m., compared to those who do not.

AINUKI Tomomi et al. (2011), "Association of Preschool Children's Family Breakfast Habits with Their Lifestyles and Their Families' Childcare Practices," 69 (6), p. 304-311 [Article No. 6]. (The figure was created based on Table 2.)

Relationship between having breakfast with family and the wake-up time



Many children who eat breakfast with their family wake up before 7 a.m.

*1 Article No. (Kyōshoku): 3, 5, 6, 12, 50

*2 Article No. (Kyōshoku): 12, 20, 22

The list of articles can be found here (MAFF website): <http://www.maff.go.jp/j/syokuiku/evidence/index.html>

What Are the Benefits of Having Breakfast Every Morning?

How is having breakfast every morning related to our lives? Here's what we found out based on studies conducted with Japanese people.

Benefits of Having Breakfast Every Morning

- 
- 
- Having breakfast every morning is related to the nutritional balance of the diet.
 - Having breakfast every morning is related to having an orderly life.
 - Having breakfast every morning is related to mental health.
 - Having breakfast every morning is related to academic performance, learning habits, and physical fitness.



Having breakfast every morning is related to the nutritional balance of the diet.

Studies show that having breakfast every morning is related to the balanced intake of nutrients and food.

Benefits of Having Breakfast Every Morning

Compared to those who do not, people who eat breakfast tend to...

- ① Get more protein, carbohydrates, iron, vitamin B1, vitamin B2 and other nutrients (studies with college students and adults).^{*1}
- ② Eat more cereals, vegetables, and eggs (studies with junior high school students, college students, and adults).^{*2}



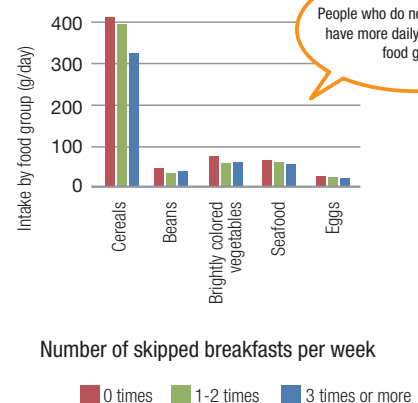
Research Note

People who eat breakfast can take in more nutrients and food!?

Who were the subjects?	2,069 freshmen (females) at 22 universities, junior colleges and vocational schools in 13 prefectures
What was this study about?	The study examined the relationship between the number of skipped breakfasts per week and the intake of nutrients and individual food groups.
What was found out?	Students who eat breakfast daily have higher intakes of many nutrients such as energy, protein, oils and fats, carbohydrates, minerals, vitamins, fatty acids, and food fiber, compared to students who skip breakfast three or more times a week. By food group, these students ate more cereals, beans, brightly colored vegetables, seafood, and eggs.

YAMAMOTO Mikiko et al. (2006), "The effects of skipping breakfast habits on total daily nutrition and food intake during adolescence," Kenkō-shien, 8 (2), p. 97-105 [Article No. 104]

Relationship between the number of skipped breakfasts and intake by food group



*1 Article No. (Breakfast): 1, 23, 24, 92, 104, 110

*2 Article No. (Breakfast): 1, 23, 24, 45, 72, 92, 104, 110

The list of articles can be found here (MAFF website): <http://www.maff.go.jp/j/syokuiku/evidence/index.html>

Having breakfast every morning is related to having an orderly life.

Studies show that having breakfast every morning is related to having an orderly life.

Benefits of Having Breakfast Every Morning

Compared to those who do not, people who eat breakfast tend to...

- ① Wake up and go to bed earlier (studies with infants, elementary school, junior high school, and high school students).^{*1}
- ② Have better sleep quality and are less likely to suffer insomnia (studies with infants, junior high school students, and adults).^{*2}



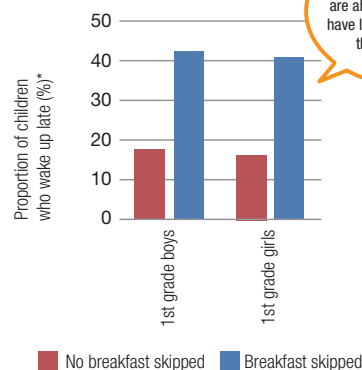
Research Note

Children who skip breakfast are late to wake up!?

Who were the subjects?	A follow-up survey was conducted on 10,450 babies born in Toyama Prefecture in 1989 over the following 13 years.
What was this study about?	The relationship between having breakfast and the children's lifestyle habits was examined when they were in first grade, fourth grade, and first grade.
What was found out?	In all grades, children who skipped breakfast had a tendency to wake up and go to bed later and sleep less. It was also shown that children who skip breakfast often eat night snacks, indicating that eating breakfast is related to having an orderly life.

TOKUMURA Mitsuaki et al. (2004), "Relationship between the Breakfast Skipping Habit and Obesity in Children," 108 (12), p. 1487-1494 [Article No. 119]

Relationship between skipping breakfast and wake-up time



*Children who wake up after 6:30 a.m. are classified as children who wake up late.

*1 Article No. (Breakfast): 18, 23, 47, 84, 90, 91, 107, 116, 119, 145, 146, 147, 150, 153

*2 Article No. (Breakfast): 11, 16, 21, 51, 128, 153

The list of articles can be found here (MAFF website): <http://www.maff.go.jp/j/syokuiku/evidence/index.html>

Having breakfast every morning is related to mental health.

Studies show that having breakfast every morning is related to mental health.

Benefits of Having Breakfast Every Morning

Compared to those who do not, people who eat breakfast tend to...

- ① Feel less stress (studies with junior high school students and adults).^{*1}
- ② Report complaints about their mental condition (such as “irritated” or “cannot concentrate”) less often and are able to maintain a good state of mind (studies with elementary school, junior high school, high school, and college students).^{*2}
- ③ Have more positive opinions about their family and friends (responses like “they are important to me” and “I enjoy being around them”) (studies with elementary school and junior high school students).^{*3}



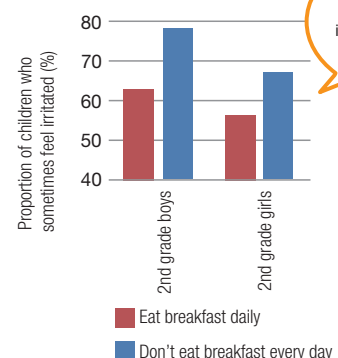
Research Note

Children who do not eat breakfast every morning tend to get irritated more easily!?

Who were the subjects?	15,686 elementary and junior high school students in Hiroshima Prefecture
What was this study about?	The relationship between having breakfast and feeling irritated.
What was found out?	Compared to children who eat breakfast every morning, a higher percentage of those who do not responded that they were irritated “constantly,” “frequently,” or “sometimes.”

TAMURA Norihisa et al. (2013), “The Proposal of Important Lifestyle Habit for Abatement of Sleepiness and Irritation: The Lifestyle Survey for 16,421 Children in Hiroshima Prefecture,” 72(3), p. 352-362 [Article No. 44]

Relationship between skipping breakfast and feeling irritated



Children who skip breakfast are more likely to feel irritated than children who eat breakfast every day.

*1 Article No. (Breakfast): 8, 75, 99, 103

*2 Article No. (Breakfast): 44, 97, 124, 148

*3 Article No. (Breakfast): 31, 116, 118

The list of articles can be found here (MAFF website): <http://www.maff.go.jp/j/syokuiku/evidence/index.html>

Having breakfast every morning is related to academic performance, learning habits, and physical fitness.

Studies show that having breakfast every morning is related to achieving better academic performance, physical fitness, and learning habits.

Benefits of Having Breakfast Every Morning

Compared to those who do not, people who eat breakfast tend to...

- ① Have better academic performance (i.e. get better grades and achieve higher test scores) (studies with junior high school students).^{*1}
- ② Be able to study for longer (studies with elementary school, junior high school, and high school students).^{*2}
- ③ Achieve better physical fitness scores (studies with elementary school students to adults).^{*3}



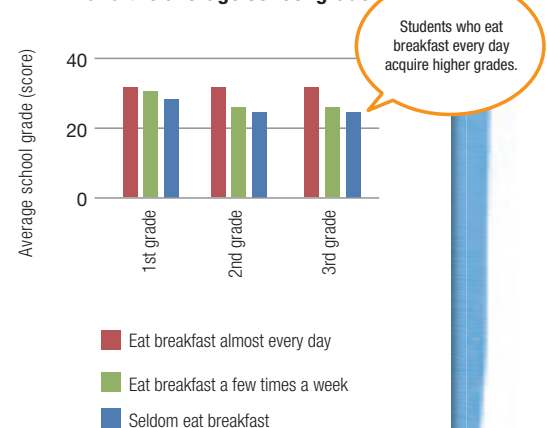
Research Note

Children who eat breakfast every day tend to achieve better school grades!?

Who were the subjects?	648 1st- to 3rd-grade junior high school students in Okayama Prefecture
What was this study about?	The study examined the relationship between having breakfast and school performance.
What was found out?	In the 2nd and 3rd grade of junior high school, the average school grade (the total scores for nine school subjects: 45) was higher among children who eat breakfast almost every day compared to those who eat breakfast a few times a week or those who seldom eat breakfast.

NONOUE Keiko et al. (2008), "The relationship between life style and subjective symptoms, and academic records of junior high school students in Okayama City," Gakkō Hoken Kenkyū, 50, p. 5-17 [Article No. 95]

Relationship between having breakfast and the average school grade



*1 Article No. (Breakfast): 8, 95

*2 Article No. (Breakfast): 64, 84

*3 Article No. (Breakfast): 66, 149, 152

The list of articles can be found here (MAFF website): <http://www.maff.go.jp/j/syokuiku/evidence/index.html>

3

What Are the Benefits of Having a Balanced Diet?

How is having a balanced diet related to our health? Here's what we found out based on studies conducted with Japanese people.



Benefits of Having a Balanced Diet



- Meals consisting of staple food, a main dish and side dishes are related to a balanced diet.
- There are dietary patterns that are associated with a reduced risk of illness.
- A well-balanced diet is associated with longevity.

What does a meal consisting of staple food, a main dish, and side dishes look like?

Side dishes

Vegetables, potatoes, beans (excluding soybeans), mushrooms, seaweed, etc., which serve as the source of various vitamins, minerals and food fiber



Main dishes

Meat, fish, eggs, soybeans and soy products, which serve as the source of protein



Staple dishes

Carbohydrate sources such as rice, bread, noodles and pasta

When making or choosing a meal, make sure to combine staple foods, a main dish, and side dishes, and your diet will be well-balanced in terms of nutrition and appearance.

Meals consisting of staple food, a main dish and side dishes are related to a balanced diet.

Studies show that meals consisting of staple food, a main dish and side dishes are related to a balanced diet.

Benefits of Having Meals Consisting of Staple Food, a Main Dish and Side Dishes

Compared to those who do not, people who often eat meals consisting of staple food, a main dish, and side dishes tend to...

- ① Take in more balanced nutrients and foods.*¹
- ② Be less prone to vitamin and other nutrient deficiencies.*²



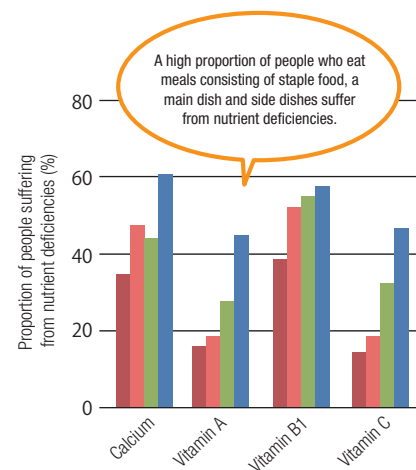
Research Note

People who have meals consisting of staple food, a main dish and side dishes less often tend to develop nutrient deficiencies!?

Who were the subjects?	299 adult males and females in their 40s and 50s working at a factory in Toyama Prefecture
What was this study about?	The study measured the number of meals consisting of staple food, a main dish and side dishes in four meal surveys (the 24-hour recall method), and examined the relationship between the number of such meals and nutrient intake.
What was found out?	The results showed that those who eat meals consisting of staple food, a main dish, and side dishes less frequently had less energy, protein-to-energy ratio, and sodium, potassium, calcium, iron, vitamin B1, vitamin B2, and vitamin C intakes. In addition, those who eat such meals less than once a day had a higher chance of suffering from a deficiency* of calcium, vitamin A, vitamin B1, or vitamin C compared to those who have more of such meals.

*Levels below the estimated average required amount shown in the Dietary Reference Intakes for Japanese (2015). Koyama T, et al. Relationship of Consumption of Meals Including Grain, Fish and Meat, and Vegetable Dishes to the Prevention of Nutrient Deficiency: The INTERMAP Toyama Study. J. Nutr. Sci. Vitaminol, 2016, 62, p.101-107 [Article No. 3]

Relationship between the number of meals consisting of staple food, a main dish and side dishes and the proportion of people suffering from nutrient deficiencies



Number of meals consisting of staple food, a main dish and side dishes per day

■ Group with the highest numbers
 ■ Group with relatively high numbers
 ■ Group with small numbers
 ■ Group with the smallest number (Less than once a day)

*1 Article No. (Balanced Diet: Staple Food, Main Dish, Side Dishes): 3, 4, 6

*2 Article No. (Balanced Diet: Staple Food, Main Dish, Side Dishes): 3, 6

The list of articles can be found here (MAFF website): <http://www.maff.go.jp/j/syokuiku/evidence/index.html>

Some dietary patterns are associated with a reduced risk of illness.

Studies show that diet is associated with diseases such as cancer and cardiovascular disease.

Benefits of a Dietary Pattern That Include a Lot of Vegetables, Fruits, Beans, Seaweeds, and Dairy Products, and a Moderate Amount of Meat

- ① It reduces the risk of developing stomach cancer, colon cancer, and breast cancer.^{*1}
- ② It reduces the risk of death from cerebrovascular and heart disease.^{*2}
- ③ It reduces the risk of developing diabetes.^{*3}



Relationship between disease and dietary patterns

Typical dietary pattern	Food groups associated with the dietary pattern (Mainly consumed food groups)	Cancer	Cardiovascular disease	Diabetes
Example: Healthy dietary pattern	Vegetables	↓	↓	↓
	Potatoes			↓
	Fruits	↓	↓	↓
	Beans (soybeans and soy products)	↓	↓	↓
	Seaweed		↓	↓
	Seafood		↓	
Example: Western-style dietary pattern	Dairy products	↓	↓	
	Meat and processed meat	↑	↑	
	Alcoholic beverages	↑		
	High-sodium foods	↑		
	Fatty foods		↑	



The healthy dietary pattern is that of people who often eat vegetables, potatoes, fruits, beans, seaweeds, seafood, and dairy products. The table shows that a dietary pattern associated with a reduced risk of diabetes mainly consists of vegetables, potatoes, fruits, beans, and seaweeds. Read the table in the same manner for cancer and cardiovascular disease.

Food groups that are often consumed in dietary patterns related to a **reduced risk of the disease** (↓) and those related to an **increased risk of the disease** (↑).

*A dietary pattern is a combination of foods determined based on the statistical analysis of the intake and frequency of foods/food groups obtained through dietary surveys. Although each dietary pattern is associated with the intake of several foods or food groups, dietary patterns are defined differently among different studies. Researchers name dietary patterns based on their characteristics when examining their relationship with diseases. Therefore, even when dietary patterns from different studies have the same name, their definitions may be different.

*1 Article No. (Balanced Diet: Cancer): 2, 5, 7, 9, 12, 14, 15

*2 Article No. (Balanced Diet: Cardiovascular Disease): 2, 4, 5, 6, 7

*3 Article No. (Balanced Diet: Diabetes): 1, 2, 5

The list of articles can be found here (MAFF website): <http://www.maff.go.jp/j/syokuiku/evidence/index.html>

A well-balanced diet is associated with longevity.

Studies show that a balanced diet is associated with a reduced risk of death.

Benefits of a Balanced Diet

Compared to those who do not, people who eat a balanced diet tend to...

- ① Have a reduced risk of death.*¹



Research Note

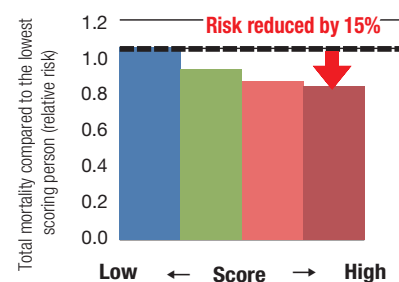
People who have a dietary pattern according to the Japanese Food Guide Spinning Top live longer!?

Who were the subjects?	Approximately 80,000 adult males and females aged 45-75 at 11 locations across Japan
What was this study about?	To evaluate to what degree people follow the Japanese Food Guide Spinning Top, a questionnaire survey was conducted to determine the frequency of food intake. The study calculated the energy intake from staple foods, side dishes, main dishes, milk and dairy products, fruits, total energy, and confectionery and beverages. The results were expressed on a 0-10 point scale for these seven categories respectively. The total score (the full score is 70 points) was used as a score to indicate the degree of compliance with the Japanese Food Guide Spinning Top ("compliance score"). The study conducted follow-up surveys over about 15 years to track changes in the compliance score.
What was found out?	The risk of mortality for the group with the highest compliance score (the group with a diet that is most consistent with the Japanese Food Guide Spinning Top) was reduced by 15% compared to the group with the lowest score (the group with a diet that is most inconsistent with the Japanese Food Guide Spinning Top).
What did a different study find out?	A study conducted with about 30,000 adult males and females in Takayama City also reported that females with higher compliance scores had a lower risk of total mortality (Oba et al. 2009).

Kurotani K, et al. Quality of diet and mortality among Japanese men and women: Japan Public Health Center based prospective study. BMJ, 2016, 352:i1209.

Oba S, et al. Diet Based on the Japanese Food Guide Spinning Top and Subsequent Mortality among Men and Women in a General Japanese Population. J Am Diet Assoc, 2009, 109(9), p.1540-7.

Relationship between compliance scores and risk of mortality



Compliance with the Japanese Food Guide Spinning Top

Having a diet that complies with the Japanese Food Guide Spinning Top will lead to longevity.

*1 Article No. (Balanced Diet: Mortality): 1, 2, 3

The list of articles can be found here (MAFF website): <http://www.maff.go.jp/j/syokuiku/evidence/index.html>

What Is a Balanced Diet?

The Japanese Food Guide Spinning Top shows the desired combination of staple foods, side dishes, main dishes, milk and dairy products, and fruits and their appropriate volume (approximate) as the number of dishes.

- In March 2000, the then Ministry of Education, the then Ministry of Health and Welfare and MAFF cooperated to formulate the Dietary Guidelines for Japanese (partially revised in June 2016).

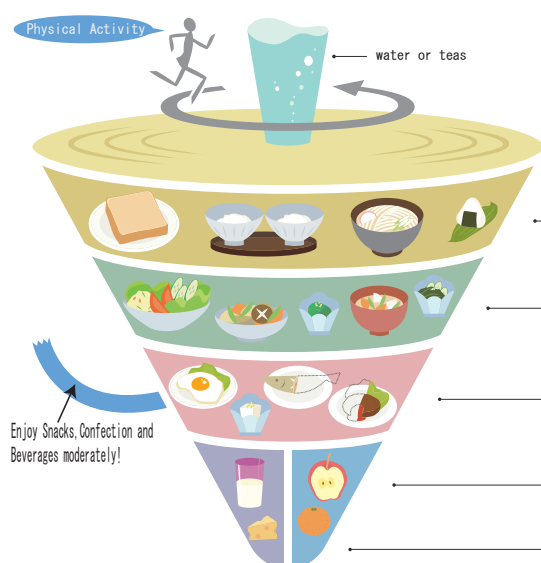


- The Dietary Guidelines for Japanese encourage people to eat a balanced diet consisting of staple foods, main dishes, and side dishes made with various kinds of ingredients. The Guidelines also state that it is important to have grains such as rice in combination with vegetables and fruits, milk and dairy products, beans, and fish.



- In 2005, the Ministry of Health, Labour, and Welfare (MHLW) and MAFF created the Japanese Food Guide Spinning Top, as a measure to link the above Guidelines to concrete actions.

- The Japanese Food Guide Spinning Top shows the desired combination of meals and the appropriate approximate volume using a spin-shaped figure to help people consider what and how much they should eat per day.



Japanese Food Guide Spinning Top

Do you have a well-balanced diet?

for one day	Example of dishes or food
5~7 SV Grain dishes (Rice, Bread, Noodles, and Pasta)	1sv = [bread] = [rice] = [noodle] = [pasta] 1.5sv = [bread] 2sv = [rice] [noodle] [pasta]
5~6 SV Vegetable dishes	1sv = [vegetable] [vegetable] [vegetable] [vegetable] [vegetable] [vegetable] 2sv = [vegetable] [vegetable] [vegetable] [vegetable]
3~5 SV Fish and Meat dishes (Meat, Fish, Egg, and Soy-bean dishes)	1sv = [fish] [meat] [egg] [soy-bean] 2sv = [fish] [meat] [egg] [soy-bean] 3sv = [fish] [meat] [egg] [soy-bean]
2 SV Milk (Milk and Milk products)	1sv = [milk] [cheese] [yogurt] 2sv = [milk] [cheese] [yogurt]
2 SV Fruits	1sv = [apple] [orange] [banana] [grape] [pear] [mango]

※ SV is an abbreviation of "Serving", which is a simply countable number describing the approximated amount of each dish or food served to one person

Decided by Ministry of Health, Labour and Welfare and Ministry of Agriculture, Forestry and Fisheries.

What Are the Benefits of Having Agriculture, Forestry and Fishery Experiences?

What are the impacts of gaining agriculture, forestry and fishery experience at school? Here's what we found out based on studies conducted with Japanese people.

Benefits of Agriculture, Forestry and Fishery Experiences

- Agriculture, forestry and fishery experience is related to raised awareness and interest in food.
- Agriculture, forestry and fishery experience is related to food awareness and knowledge.
- Agriculture, forestry and fishery experience is related to food preferences.
- Agriculture, forestry and fishery experience is related to eating behavior, such as leaving food unfinished.
- Agriculture, forestry and fishery experience is related to mental health.

What is Agriculture, Forestry and Fishery Experience?

- The Third Basic Plan for the Promotion of Shokuiku provides that workers in the agriculture, forestry and fishery industry are to collaborate with a wide range of stakeholders who promote shokuiku, including staff at schools, nurseries, and other educational organizations in proactively providing opportunities to gain a variety of experience related to agriculture, forestry and fisheries, through initiatives such as educational farms.^{*1}
- Agriculture, forestry and fishery experience includes rice planting (seeding), rice harvesting, vegetable harvesting and livestock care.



^{*1} Educational farms are farms run by farmers' associations where consumers can visit and experience a series of farming activities. Their purpose is to help consumers understand various activities of people whose work is related to nature or food.

Agriculture, forestry and fishery experience is related to raised awareness and interest in food.

Studies show that having agriculture, forestry and fishery experience is related to raised awareness and interest in food.

Benefits of Having Agriculture, Forestry and Fishery Experience

- ① Studies with elementary and junior high school students showed that having agriculture, forestry, and fishery experience led to a greater appreciation of food and interest in food.*1

- ② Studies with infants showed that having agriculture, forestry and fisheries experience had a positive impact on eating habits, such as increased consumption of vegetables.*2



Research Note

Example of vegetable farming experience

Who were the subjects?	64 third grade students in Fukuoka Prefecture engaged in vegetable farming experience as part of their comprehensive learning program over half a year.
What was this study about?	The study examined the effects of the farming experience on the students' awareness concerning environment, food, and farming, their daily behavior, and their eating habits. A questionnaire survey was conducted with the students before and after the experience. A questionnaire survey was also conducted with students who did not participate in the experience for the purpose of comparison.
What was found out?	Among the survey items, the percentage of students who responded "I don't hate any food" or "I always want to eat more vegetables" was higher after the experience. The percentage was also higher among the students who participated in the experience (after the completion of the experience) than those who did not.

Ying Ge et al. (2014), "The Effect of Agricultural Experience on Environmental Awareness and Eating Habits among Rural Children in Japan," *Kankyō Kyōiku*, 24(2), p.40-49 [Article No. 1]

*1 Article No. (Agriculture, Forestry and Fishery Experience): 1, 2, 5, 7, 8

*2 Article No. (Agriculture, Forestry and Fishery Experience): 6, 9

The list of articles can be found here (MAFF website):<http://www.maff.go.jp/j/syokuiku/evidence/index.html>

Findings Related to Agriculture, Forestry and Fishery Experiences (2)

Agriculture, forestry and fishery experience is related to food awareness and knowledge.

Studies show that agriculture, forestry and fishery experience is related to food awareness and knowledge.

Benefits of Having Agriculture, Forestry and Fishery Experience

Compared to those who have not, people who have agriculture, forestry and fishery experience tend to...

- 1 Have stronger interest in food and feel greater appreciation for food (studies on farming in kindergartens and schools with infants, elementary and junior high school students).^{*1}
- 2 Have better knowledge of seasonal vegetables and local cuisine (studies on agriculture experience for elementary school students at model schools, home gardens, and travel destinations, and studies with college students).^{*2}
- 3 Have a higher level of awareness about food (studies on farming on experience farms and community farms with adults and older people).^{*3}



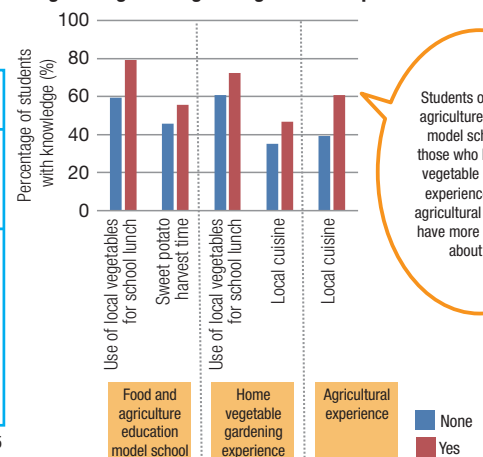
Research Note

Students of agriculture education model schools and children who have farming experience (including home gardens) have abundant knowledge about food!¹

Who were the subjects?	524 fifth- and sixth-grade students from four elementary schools in Gunma Prefecture
What was this study about?	The study examined the relationship between food knowledge (use of local vegetables for school lunch, harvest time of sweet potatoes, and local cuisine) and the designation of a model school for food and agriculture education, the experience of vegetable gardening and other agricultural experience.
What was found out?	- At schools designated as food and agriculture education model schools, many children knew that they use local vegetables for school lunch and knew when to harvest sweet potatoes. - Students who have experienced vegetable gardening had a higher chance of knowing that they use local vegetables for school lunch and knew about local cuisine. - Many of the students who have agricultural experience knew about local cuisine. In addition, many of these students also went grocery shopping with their family.

OURA Yuji et al. (2009), "Observing the Effects of School Luncheon and Food Agriculture Education on Children," 45 (2), p. 254-257 [Article No. 8]. (The figure was created based on Table 2.)

Relationship between food knowledge and the designation of food and agriculture education model schools, home vegetable gardening and agriculture experience



*1 Article No. (Agriculture, Forestry and Fishery Experience): 1, 2, 4, 5, 7, 12

*2 Article No. (Agriculture, Forestry and Fishery Experience): 8, 13

*3 Article No. (Agriculture, Forestry and Fishery Experience): 19

The list of articles can be found here (MAFF website): <http://www.maff.go.jp/j/syokuiku/evidence/index.html>

Agriculture, forestry and fishery experience is related to food preferences.

Studies show that agriculture, forestry and fishery
experience is related to food preferences.

Benefits of Having Agriculture, Forestry and Fishery Experience

Compared to those who have not, people who have agriculture,
forestry and fishery experience tend to...

- ① Prefer vegetables grown in home or school gardens
(studies on vegetable gardening and farming at
kindergartens).^{*1}
- ② Have no dislikes for foods (studies on agricultural
experience with elementary school students).^{*2}



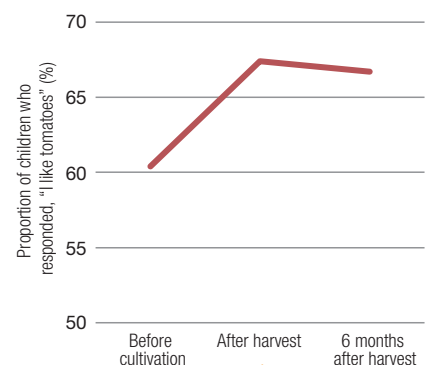
Research Note

Children who grew tomatoes come to like tomatoes!?

Who were the subjects?	221 children in the first year of five kindergartens in Hokkaido Prefecture
What was this study about?	The study examined whether the children's preference for tomatoes would change after growing, harvesting, and eating tomatoes and cherry tomatoes.
What was found out?	Children's preference for tomatoes improved after the harvest and six months after the harvest compared to before cultivation. Other criteria such as balanced eating (eating foods even if they do not like them), interest in food (speaking happily about what they know about vegetables, and feeling regretful when leaving foods unfinished or dropping foods) were also improved after the harvest and six months after the harvest.

KIDA Haruyo et al. (2016), "Tomato Cultivation in a Kindergarten: Influence of a Vegetable Growing Activity on Picky Eating Habits among Preschoolers," The Japanese Journal of Nutrition and Dietetics, 73 (1), p. 20-28 [Article No. 2]. (The figure was created based on Table 2.)

Changes in children's preference for
tomatoes before, after, and 6 months
after tomato cultivation



The number of children who liked
tomatoes increased after harvest
compared to before cultivation.

*1 Article No. (Agriculture, Forestry and Fishery Experience): 1, 2

*2 Article No. (Agriculture, Forestry and Fishery Experience): 4

The list of articles can be found here (MAFF website): <http://www.maff.go.jp/j/syokuiku/evidence/index.html>

Findings Related to Agriculture, Forestry and Fishery Experience (2)

Agriculture, forestry and fishery experience is related to eating behavior, such as leaving food unfinished.

Studies show that agriculture, forestry and fishery experience is related to eating behavior, such as leaving food unfinished.

Benefits of Having Agriculture, Forestry and Fishery Experience

Compared to those who have not, people who have agriculture, forestry and fishery experience tend to...

- ① Leave foods unfinished less often (studies on farming at home and school with preschoolers and elementary school students).^{*1}
- ② Eat a balanced diet consisting of staple food, a main dish, and side dishes, and take in various kinds of foods (studies on agricultural experience farming with college students, adults, and older people).^{*2}
- ③ Eat vegetables more frequently and have more opportunities to acquire vegetables (studies on farming at community farms and home gardens with adults and older people).^{*3}

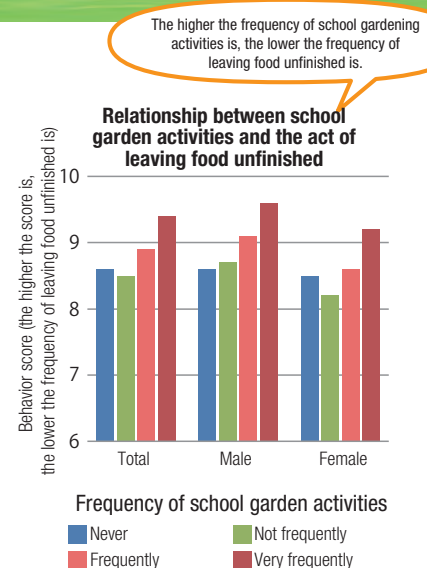


Research Note

Children who have experienced school gardening activities leave food unfinished less often!?

Who were the subjects?	1,994 5th and 6th graders attending a public elementary school in Ward A, Tokyo
What was this study about?	The study examined the relationship between the frequency of school gardening activities and the act of leaving food unfinished.
What was found out?	The higher the frequency of school gardening activities was, the higher the behavior score was (meaning leaving food unfinished less often). In addition, the higher the frequency of school gardening activities was, the stronger the children's regret for leaving their food unfinished was. These children tended to like vegetables and had higher expectations for the benefits of eating vegetables.

TANIGUCHI Takaho et al. (2009), "Psychosocial predictors of leftover food in Japanese elementary school students: the feeling of mottanai and vegetable intake," Japanese Journal of Health Education and Promotion, 17 (1), p. 24-33 [Article No. 6]. (The figure was created based on Table 3.)



*1 Article No. (Agriculture, Forestry and Fishery Experience): 1, 2, 3, 6

*2 Article No. (Agriculture, Forestry and Fishery Experience): 13, 18

*3 Article No. (Agriculture, Forestry and Fishery Experience): 16, 18 (Note: Article No. 17 observed no relevance.)

The list of articles can be found here (MAFF website): <http://www.maff.go.jp/j/syokuiku/evidence/index.html>

Agriculture, forestry and fishery experience is related to mental health.

Studies show that agriculture, forestry and fishery
experience is related to mental health.

Benefits of Having Agriculture, Forestry and Fishery Experience

Engaging in agriculture, forestry and fishery experience...

- ① Alleviates tension, anxiety, and anger (studies on agricultural experience
in rural areas with elementary school and junior high school students).^{*1}
- ② Helps people maintain a good mental condition
(studies on farming on community farms with
adults and older people).^{*2}



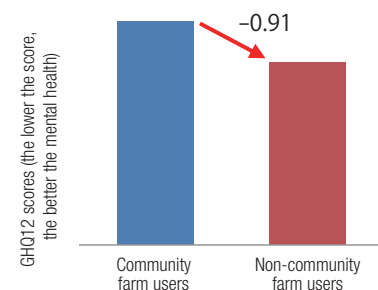
Research Note

Users of community farms have better mental health!?

Who were the subjects?	165 community farm users and 167 non-farm users in Nerima-ku
What was this study about?	The study examined the relationship between the use of a community garden and mental health. (GHQ12: The lower the score, the better the mental health.)
What was found out?	The GHQ12 score of the community farm users was lower than that of the non-farm users. In other words, the community farm users had better mental health. In addition, compared to non-farm users, community garden users were more likely to eat vegetables and see themselves as healthy, had less subjective symptoms of health, and felt more connected with other local people.

Soga M, et al. (2017), "Health Benefits of Urban Allotment Gardening: Improved Physical and Psychological Well-Being and Social Integration," Int J Environ Res Public Health, 14 (1), 71 [Article No. 16]. (The figure was created based on Table 3).

Relationship between the use
of community farms and mental health



A lower GHQ12 score indicates better mental health. In other words, the community farm users have better mental health.

*1 Article No. (Agriculture, Forestry and Fishery Experience): 9, 11

*2 Article No. (Agriculture, Forestry and Fishery Experience): 16

The list of articles can be found here (MAFF website):<http://www.maff.go.jp/j/syokuiku/evidence/index.html>



Reference

Findings Related to Agriculture, Forestry and Fishery Experience (3)

What Are the Benefits of Agriculture, Forestry and Fishery Experience?

Findings from Overseas Studies

Benefits of Having Agriculture, Forestry and Fishery Experience

The following tendencies have been reported in relation to people who have agriculture, forestry and fishery experience as compared to those who have not.

● **Agriculture, forestry and fishery experience is related to food awareness and knowledge.*1**

It has been reported that they tend to be more willing to eat vegetables and fruits and have high knowledge of nutrition.

● **Agriculture, forestry and fishery experience is related to food preferences.*2**

It has been reported that they tend to like vegetables and fruits.

● **Agriculture, forestry and fishery experience is related to eating behavior.*3**

It has been reported that they tend to eat a lot of vegetables and fruits and have a well-balanced diet.

● **Agriculture, forestry and fishery experience is related to physical activities.*4**

It has been reported that they tend to be more physically active.

● **Agriculture, forestry and fishery experience is related to mental health.*5**

It has been reported that their stress hormone level tends to be low.

● **Agriculture, forestry and fishery experience is related to connections with the local people and communities.*6**

It is reported that they tend to have more opportunities of social participation and strong connection with their local community.



*1 Article No. (Agriculture, Forestry and Fishery Experience/Overseas): 2, 8, 9, 10, 12, 14

*2 Article No. (Agriculture, Forestry and Fishery Experience/Overseas): 7, 8, 9, 10, 12, 14

*3 Article No. (Agriculture, Forestry and Fishery Experience/Overseas): 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14

*4 Article No. (Agriculture, Forestry and Fishery Experience/Overseas): 1, 3, 6, 7, 8

*5 Article No. (Agriculture, Forestry and Fishery Experience/Overseas): 1, 6, 7, 11

*6 Article No. (Agriculture, Forestry and Fishery Experience/Overseas): 1, 3, 6, 7, 11

The list of articles can be found here (MAFF website): <http://www.maff.go.jp/j/syokuiku/evidence/index.html>

Useful Information for Practicing Shokuiku

Use the following materials when practicing the messages delivered through this pamphlet.



① Measures related to the promotion of shokuiku

● Third Basic Plan for the Promotion of Shokuiku

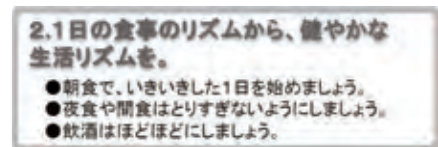
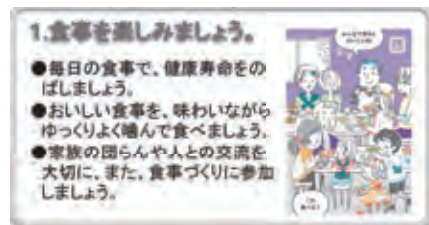
- Key points of the Third Basic Plan for the Promotion of Shokuiku are summarized in a leaflet in an easy-to-understand manner.



(Example)

● Dietary Guidelines for Japanese

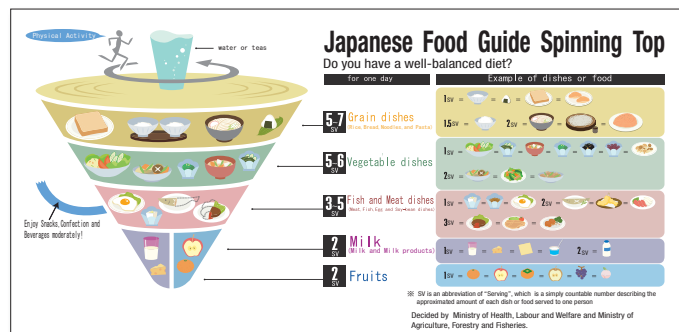
- Guidelines for each citizen to practice desirable dietary habits



(Example)

● Japanese Food Guide Spinning Top

- This figure shows desirable combinations and approximate amounts of meals to help you think about what and how much you should eat each day.





2 Examples of materials related to the topics covered in this pamphlet

Go to Bed Early, Wake up Early, and Eat Breakfast

(MEXT, HayaneHayaokiAsagohan Zenkoku Kyougikai)

- Practical guidebook for each age group
- Breakfast pocket recipes, etc.



(Example)

Shokuiku materials using the Japanese Food Guide Spinning Top

(MAFF, MLHW)

- A pamphlet showing key points for utilizing the Japanese Food Guide Spinning Top for each life stage
- A collection of examples that are useful in elementary and junior high schools, and in the retail, ready-made meal and restaurant industries



(Example)

Recommendation of the Japanese style diet

(MAFF)

- A pamphlet showing key points for practicing the Japanese style diet, achieved by consciously adding small dishes to ready-made and restaurant meals, and how to create a menu with a focus on rice.



(Example)

Promotion of Agriculture, Forestry and Fishery Experiences

(MAFF)

- List of agriculture, forestry and fishery experience spots (such as educational farms) across Japan
- E-mail magazine on food, agriculture, forestry and fishery experience
- Educational materials on agriculture, forestry and fishery experience for schools



(Example)

If you want to know more about shokuiku...

Promotion of Shokuiku MAFF



This pamphlet combines Parts I and II of “What Are the Benefits of Shokuiku? –What We Know Based on Evidence.”

“What Are the Benefits of Shokuiku? –What We Know Based on Evidence” was prepared in March 2018 after discussions by the following committee members.

Evidence-Based Shokuiku Activity Review Committee

Name	Affiliation and title
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KANBA Eiko	Director, Business Strategy II Department, Business Development & Activation Division, Dentsu
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○ TAKIMOTO Hidemi	Chief, Department of Nutritional Epidemiology and Shokuiku, National Institute of Health and Nutrition, National Institutes of Biomedical Innovation, Health and Nutrition
HONJO Yasuhiro	Senior Assistant Professor, Meiji University (Recommended by Nihon Shokuiku Gakkai)
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○ = Chair The affiliations and titles are as of the time of printing.



“What Are the Benefits of Shokuiku? –What We Know Based on Evidence (Part II)” was prepared in March 2019 after discussions by the following committee members.

Evidence-Based Shokuiku Activity Review Committee

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<Agriculture, forestry and fishery experience>	
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○ = Chair The affiliations and titles are as of the time of printing.



What Are the Benefits of Shokuiku (Food and Nutrition Education)?

What We Know Based on Evidence



Contact

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