# Supplementary Table 1. Food groups in the factor analysis

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| Food group | Examples of food items |
| White rice | White rice |
| Unpolished rice | Barley rice, brown rice, and millet |
| Bread | Bread |
| Noodles | Buckwheat noodles, Chinese noodles, Japanese wheat noodles, Okinawan noodles, and pasta |
| Potatoes | Potato, sweet potato, taro, yam, and yam cake |
| Nuts | Peanut and sesame |
| Soybeans | Tofu and tofu products |
| Green vegetables | Bok choy, broccoli, carrot, Chinese chives, garland chrysanthemum, green asparagus, green onion, Japanese spinach, leaf mustard, mugwort, pumpkin, sweet pepper, tomato, turfed stone leek, snap peas, spinach, and swiss chard |
| White vegetables | Bean sprouts, bitter gourd, burdock, cabbage, Chinese cabbage, cucumber, eggplant, garlic, lettuce, onion, radish, and sponge gourd |
| Pickled vegetables | Pickled Chinese cabbage, pickled cucumber, and pickled eggplant, pickled green leaf, pickled plum, and pickled radish  |
| Mushrooms | Enoki, Shiitake, and Shimeji  |
| Seaweed | Wakame. hijiki and laver |
| Fruits | Apple, banana, grapes, Japanese persimmon, mandarin and other oranges, kiwifruit, mango, melon, watermelon, papaya, peach, pear, pineapple, and strawberry |
| Fruit and vegetable juice | Apple (100%), orange (100%), grapefruit (100%), and other types of fruit juices, and tomato and vegetable juice |
| Fish and shellfish | Salmon, tuna, horse mackerel/sardine, pacific saury/mackerel, yellow tail, cod/flatfish, sea bream, baby sardine, salmon roe, eel, squid, octopus, shrimp, clam, pond snail, fish cake, tube-shaped fish paste cake, fried fish cake, salted fillet, dried fish, and canned tuna |
| Fresh meat | Chicken, pork, and beef |
| Processed meat | Ham, sausage, bacon, and luncheon meat |
| Eggs | Egg |
| Full-fat milk | Full-fat milk |
| Low-fat milk | Low-fat milk |
| Other dairy products | Yogurt, cheese, and cream or creamer added to coffee  |
| Green tea  | Green tea |
| Black tea  | Black tea |
| Coffee | Coffee |
| Soft drink | Soft drink |
| Confectionery | Cake, biscuits/cookies, chocolate, ice cream, and Japanese sweets |
| Savory snack foods | Snacks (potato chips and others) and rice crackers |
| Sugar | Honey, jam, marmalade, and sugar for coffee and tea  |
| Oil and fat | Butter, vegetable oil (safflower, corn, soybean, rapeseed, olive, and other vegetable oil), and margarine |
| Seasonings | Salt for cooking, salad dressing, mayonnaise, Japanese brown sauce, and ketchup |

# Supplementary Table 2 food intake according to the dietary pattern

|  |  |
| --- | --- |
| **Food intake (g/1000kcal)** | **Dietary pattern score** |
| The lowest score group (Q1) | Q2 | Q3 | Q4 | The highest score group (Q5) |
| Mean | (SD) | Mean | (SD) | Mean | (SD) | Mean | (SD) | Mean | (SD) |
| **Vegetable and fruits pattern** |  |  |  |  |  |  |  |  |  |  |
| White rice | 259.2  | (117.0) | 193.2  | (66.1) | 170.0  | (59.8) | 146.5  | (56.0) | 111.9  | (55.0) |
| Unpolished rice | 3.2  | (20.9) | 3.9  | (18.8) | 5.2  | (21.6) | 7.1  | (24.3) | 13.3  | (36.5) |
| Bread | 25.3  | (33.3) | 25.2  | (26.0) | 23.9  | (20.7) | 22.6  | (17.4) | 20.6  | (16.0) |
| Noodles | 53.5  | (42.3) | 62.2  | (38.4) | 65.9  | (37.9) | 68.5  | (38.3) | 67.6  | (39.4) |
| Potatoes | 6.5  | (6.1) | 10.6  | (7.0) | 13.1  | (7.8) | 16.0  | (8.8) | 21.7  | (13.5) |
| Nuts | 0.1  | (0.4) | 0.2  | (0.6) | 0.3  | (0.7) | 0.3  | (0.8) | 0.5  | (1.2) |
| Soy products | 70.0  | (82.9) | 78.7  | (66.2) | 87.0  | (67.2) | 95.3  | (68.7) | 111.6  | (76.1) |
| Sugar | 1.7  | (2.4) | 2.4  | (2.6) | 2.8  | (2.7) | 3.1  | (2.8) | 3.6  | (3.6) |
| Sweet confectionery | 26.7  | (55.3) | 35.0  | (43.9) | 37.7  | (36.9) | 40.1  | (36.1) | 42.3  | (46.3) |
| Salty confectionery | 4.7  | (11.3) | 6.1  | (8.5) | 6.8  | (8.7) | 7.3  | (8.2) | 7.7  | (10.4) |
| Fat and oil | 6.9  | (7.8) | 9.7  | (8.7) | 11.0  | (7.5) | 12.3  | (7.3) | 15.1  | (10.0) |
| Fruit | 23.4  | (32.6) | 37.4  | (37.4) | 47.2  | (43.1) | 58.3  | (49.6) | 80.4  | (67.6) |
| Green vegetables | 15.5  | (12.0) | 23.9  | (12.7) | 29.3  | (14.1) | 35.7  | (16.2) | 54.2  | (32.5) |
| White vegetables | 22.8  | (16.0) | 35.1  | (16.9) | 42.5  | (18.8) | 51.1  | (21.7) | 74.6  | (41.7) |
| Pickled vegetables | 2.3  | (4.6) | 3.4  | (5.3) | 4.1  | (6.2) | 5.1  | (7.7) | 8.0  | (14.3) |
| Mushrooms | 2.0  | (2.7) | 3.7  | (3.5) | 4.9  | (4.0) | 6.2  | (4.7) | 9.1  | (7.1) |
| Seaweed | 1.6  | (2.2) | 2.5  | (2.4) | 3.1  | (2.7) | 3.8  | (3.1) | 5.5  | (6.3) |
| Fruit and vegetable juice | 56.9  | (87.9) | 61.9  | (78.0) | 61.3  | (74.0) | 61.6  | (70.9) | 59.8  | (71.8) |
| Green tea | 119.9  | (245.4) | 105.0  | (181.6) | 100.7  | (176.7) | 99.2  | (167.2) | 101.7  | (164.7) |
| Black tea | 18.1  | (48.9) | 18.4  | (41.2) | 19.1  | (44.2) | 19.6  | (40.5) | 20.4  | (42.3) |
| Coffee | 43.7  | (86.5) | 43.5  | (71.4) | 40.7  | (63.2) | 38.9  | (59.0) | 37.3  | (56.4) |
| Soft drinks | 72.7  | (115.1) | 62.9  | (81.3) | 57.1  | (69.0) | 53.3  | (63.3) | 46.4  | (57.8) |
| Fish | 10.7  | (10.5) | 16.0  | (11.2) | 19.1  | (12.4) | 22.0  | (13.9) | 26.3  | (17.2) |
| Fresh meats | 22.4  | (22.7) | 21.8  | (14.9) | 22.0  | (14.8) | 21.7  | (14.1) | 20.7  | (16.0) |
| Processed meat | 3.7  | (5.0) | 3.9  | (3.9) | 4.0  | (3.8) | 4.0  | (3.8) | 3.9  | (3.9) |
| Egg | 15.3  | (19.8) | 17.0  | (17.0) | 16.8  | (14.9) | 16.6  | (13.9) | 16.4  | (13.1) |
| Low fat milk | 41.2  | (190.9) | 40.0  | (171.3) | 36.6  | (145.2) | 33.9  | (120.1) | 34.0  | (111.8) |
| Full fat milk | 127.8  | (327.5) | 139.4  | (295.5) | 118.8  | (229.6) | 107.5  | (180.1) | 96.9  | (170.7) |
| Other dairy products | 27.7  | (46.8) | 37.4  | (53.1) | 41.3  | (55.1) | 45.3  | (58.6) | 51.1  | (64.4) |
| Seasonings | 7.6  | (6.5) | 9.1  | (5.2) | 10.2  | (5.3) | 11.2  | (5.4) | 12.8  | (6.1) |
| **White rice and soy products** |  |  |  |  |  |  |  |  |  |  |
| White rice | 106.0  | (52.9) | 146.2  | (58.6) | 173.4  | (64.2) | 209.0  | (94.6) | 246.2  | (94.5) |
| Unpolished rice | 5.4  | (22.1) | 6.2  | (24.2) | 6.4  | (23.0) | 7.0  | (26.4) | 7.7  | (30.8) |
| Bread | 38.4  | (38.6) | 25.5  | (17.6) | 22.2  | (15.8) | 18.2  | (14.7) | 13.3  | (12.8) |
| Noodles | 69.4  | (48.4) | 69.7  | (39.9) | 66.1  | (36.9) | 59.8  | (35.6) | 52.6  | (33.0) |
| Potatoes | 11.3  | (9.2) | 13.6  | (9.7) | 14.3  | (10.2) | 14.3  | (10.4) | 14.5  | (11.8) |
| Nuts | 0.3  | (0.8) | 0.3  | (0.7) | 0.3  | (0.8) | 0.3  | (0.7) | 0.2  | (1.0) |
| Soy products | 34.8  | (26.4) | 54.5  | (33.4) | 72.8  | (39.8) | 99.0  | (50.4) | 181.4  | (91.3) |
| Sugar | 2.5  | (3.0) | 2.9  | (2.8) | 2.9  | (2.7) | 2.8  | (2.9) | 2.5  | (3.1) |
| Sweet confectionery | 53.5  | (64.6) | 41.8  | (37.6) | 35.1  | (33.5) | 28.8  | (25.2) | 22.5  | (44.9) |
| Salty confectionery | 9.0  | (13.9) | 7.6  | (8.8) | 6.4  | (7.3) | 5.3  | (6.6) | 4.3  | (8.7) |
| Fat and oil | 14.2  | (13.8) | 11.9  | (7.2) | 10.9  | (6.4) | 9.7  | (6.0) | 8.2  | (6.6) |
| Fruit | 48.1  | (59.4) | 50.7  | (51.2) | 50.9  | (49.4) | 49.3  | (48.4) | 47.7  | (47.7) |
| Green vegetables | 23.6  | (16.3) | 29.7  | (18.8) | 32.8  | (21.2) | 34.8  | (24.1) | 37.6  | (30.2) |
| White vegetables | 34.8  | (24.4) | 43.0  | (26.6) | 46.9  | (28.5) | 49.0  | (30.9) | 52.4  | (37.0) |
| Pickled vegetables | 3.0  | (5.0) | 3.9  | (6.1) | 4.5  | (6.9) | 5.0  | (8.4) | 6.5  | (13.5) |
| Mushrooms | 3.9  | (4.2) | 5.0  | (4.7) | 5.5  | (5.1) | 5.7  | (5.5) | 5.9  | (6.1) |
| Seaweed | 2.1  | (2.3) | 2.9  | (2.7) | 3.4  | (3.1) | 3.7  | (3.5) | 4.5  | (6.3) |
| Fruit and vegetable juice | 68.3  | (90.5) | 67.0  | (76.4) | 62.1  | (72.7) | 56.4  | (70.5) | 47.7  | (70.2) |
| Green tea | 103.2  | (194.0) | 104.9  | (187.6) | 104.3  | (179.9) | 104.5  | (185.8) | 109.4  | (200.2) |
| Black tea | 22.7  | (50.1) | 21.5  | (44.6) | 18.8  | (38.8) | 17.7  | (46.6) | 14.9  | (35.3) |
| Coffee | 47.0  | (78.0) | 44.4  | (68.6) | 41.1  | (64.9) | 37.0  | (62.3) | 34.7  | (65.4) |
| Soft drinks | 72.4  | (100.2) | 65.2  | (81.7) | 58.9  | (75.5) | 51.9  | (71.3) | 43.9  | (66.0) |
| Fish | 16.5  | (14.9) | 19.7  | (14.3) | 19.9  | (13.9) | 19.6  | (14.2) | 18.4  | (13.7) |
| Fresh meats | 23.4  | (20.7) | 23.1  | (15.7) | 22.2  | (16.8) | 20.6  | (14.6) | 19.3  | (15.2) |
| Processed meat | 3.6  | (4.4) | 3.9  | (4.0) | 4.0  | (3.9) | 3.9  | (3.9) | 4.0  | (4.3) |
| Egg | 16.5  | (19.2) | 16.7  | (16.1) | 16.9  | (15.9) | 16.3  | (14.4) | 15.7  | (13.4) |
| Low fat milk | 63.0  | (241.2) | 41.7  | (156.9) | 33.5  | (121.4) | 27.3  | (98.3) | 20.2  | (74.5) |
| Full fat milk | 205.3  | (409.6) | 130.0  | (242.2) | 103.4  | (189.2) | 85.7  | (151.4) | 66.0  | (114.3) |
| Other dairy products | 56.2  | (88.1) | 41.2  | (52.2) | 39.0  | (46.0) | 35.0  | (40.4) | 31.4  | (36.5) |
| Seasonings | 5.6  | (2.9) | 7.8  | (3.3) | 9.3  | (3.7) | 11.0  | (4.5) | 17.0  | (7.2) |
| **Confectionery pattern** |  |  |  |  |  |  |  |  |  |  |
| White rice | 199.2  | (83.8) | 187.0  | (78.0) | 176.8  | (74.4) | 163.3  | (73.0) | 154.5  | (121.6) |
| Unpolished rice | 5.9  | (23.6) | 6.8  | (25.1) | 7.0  | (25.9) | 6.9  | (25.7) | 6.2  | (27.0) |
| Bread | 20.0  | (17.4) | 22.3  | (17.6) | 23.0  | (19.1) | 24.3  | (23.5) | 28.0  | (35.0) |
| Noodles | 65.4  | (40.6) | 65.9  | (39.0) | 64.4  | (37.3) | 63.3  | (37.3) | 58.5  | (43.3) |
| Potatoes | 14.6  | (10.9) | 14.1  | (10.0) | 13.8  | (9.8) | 13.4  | (10.1) | 12.0  | (10.8) |
| Nuts | 0.2  | (0.4) | 0.2  | (0.6) | 0.3  | (0.6) | 0.3  | (0.8) | 0.4  | (1.3) |
| Soy products | 65.2  | (50.2) | 82.6  | (60.0) | 94.5  | (69.2) | 101.9  | (76.8) | 98.3  | (98.0) |
| Sugar | 2.1  | (2.2) | 2.6  | (2.4) | 2.8  | (2.6) | 3.0  | (2.9) | 3.2  | (4.0) |
| Sweet confectionery | 15.1  | (11.8) | 23.2  | (15.0) | 30.9  | (18.6) | 40.8  | (23.7) | 71.7  | (82.1) |
| Salty confectionery | 2.3  | (2.5) | 3.8  | (3.5) | 5.2  | (4.4) | 7.4  | (5.9) | 13.9  | (17.4) |
| Fat and oil | 8.6  | (4.2) | 9.9  | (4.8) | 10.6  | (5.4) | 11.4  | (6.3) | 14.5  | (15.9) |
| Fruit | 40.3  | (42.7) | 47.0  | (44.8) | 50.9  | (48.5) | 54.3  | (53.7) | 54.2  | (63.4) |
| Green vegetables | 33.6  | (22.3) | 32.8  | (21.4) | 32.3  | (21.5) | 31.6  | (22.7) | 28.3  | (26.9) |
| White vegetables | 50.0  | (29.2) | 46.9  | (27.6) | 45.7  | (28.2) | 44.3  | (30.5) | 39.2  | (35.0) |
| Pickled vegetables | 3.4  | (5.4) | 4.0  | (6.3) | 4.5  | (6.9) | 5.2  | (9.0) | 5.9  | (13.0) |
| Mushrooms | 5.9  | (5.8) | 5.6  | (5.2) | 5.3  | (5.0) | 4.9  | (4.7) | 4.3  | (5.2) |
| Seaweed | 3.2  | (3.5) | 3.4  | (3.3) | 3.4  | (3.3) | 3.4  | (3.5) | 3.2  | (5.5) |
| Fruit and vegetable juice | 53.7  | (73.9) | 58.8  | (73.8) | 61.5  | (73.4) | 63.7  | (77.0) | 63.8  | (84.8) |
| Green tea | 139.8  | (263.5) | 107.8  | (178.7) | 97.7  | (170.1) | 92.6  | (150.8) | 88.6  | (158.3) |
| Black tea | 22.3  | (61.8) | 18.6  | (37.2) | 18.6  | (36.4) | 18.2  | (36.5) | 17.8  | (39.9) |
| Coffee | 37.7  | (69.1) | 39.3  | (64.7) | 41.6  | (66.0) | 43.5  | (68.2) | 42.2  | (72.5) |
| Soft drinks | 43.8  | (60.9) | 52.6  | (67.0) | 57.9  | (71.8) | 64.8  | (82.4) | 73.2  | (108.2) |
| Fish | 21.2  | (16.1) | 20.3  | (14.4) | 19.2  | (13.3) | 18.2  | (13.1) | 15.1  | (13.5) |
| Fresh meats | 37.1  | (23.8) | 25.0  | (12.6) | 20.3  | (11.4) | 16.1  | (9.0) | 10.1  | (7.8) |
| Processed meat | 6.5  | (6.0) | 4.3  | (3.7) | 3.6  | (3.1) | 3.0  | (2.8) | 2.0  | (2.5) |
| Egg | 18.5  | (17.4) | 17.1  | (15.1) | 16.7  | (15.2) | 15.9  | (15.2) | 14.0  | (16.4) |
| Low fat milk | 21.8  | (63.9) | 27.5  | (89.5) | 35.4  | (131.7) | 41.9  | (164.6) | 59.0  | (237.6) |
| Full fat milk | 49.7  | (70.3) | 76.2  | (104.0) | 100.1  | (147.2) | 138.8  | (240.3) | 225.5  | (442.8) |
| Other dairy products | 35.4  | (42.1) | 38.7  | (45.9) | 40.8  | (54.4) | 44.0  | (64.3) | 43.8  | (70.0) |
| Seasonings | 8.4  | (4.5) | 9.8  | (5.0) | 10.7  | (5.6) | 11.2  | (6.2) | 10.6  | (7.7) |

Q1, the first quintile of scores for dietary pattern; Q2, the second quintile of scores for dietary pattern; Q3, the third quintile of scores for dietary pattern; Q4, the fourth quintile of scores for dietary pattern; Q5, the fifth quintile of scores for dietary pattern; SD, standard deviation

**Supplementary Table 2**. Correlations between women’s dietary patterns and nutrient intakes

|  |  |  |  |
| --- | --- | --- | --- |
|  | Vegetables and fruits | White rice and soy products | Confectionery |
| Protein | 0.35  | -0.20  | -0.25  |
| Total fat | 0.24  | -0.37  | -0.05  |
| n–3 PUFA | 0.24  | -0.26  | 0.03  |
| n–6 PUFA | 0.51  | -0.03  | 0.11  |
| Saturated fatty acid | 0.03  | -0.50  | -0.13  |
| Carbohydrate | -0.23  | 0.32  | 0.11  |
| Dietary fiber | 0.81  | -0.05  | -0.02  |
| Calcium | 0.28  | -0.43  | -0.34  |
| Magnesium | 0.64  | -0.08  | -0.15  |
| Iron | 0.61  | 0.27  | 0.02  |
| Zinc | 0.16  | 0.07  | -0.43  |
| Vitamin A | 0.46  | -0.25  | -0.22  |
| Vitamin B1 | 0.50  | -0.15  | -0.13  |
| Vitamin B2 | 0.27  | -0.33  | -0.30  |
| Niacin | 0.40  | 0.05  | 0.12  |
| Vitamin B6 | 0.69  | 0.03  | -0.17  |
| Vitamin B12 | 0.32  | -0.12  | 0.00  |
| Folate | 0.69  | -0.03  | -0.14  |
| Pantothenic acid | 0.39  | -0.26  | -0.39  |
| Vitamin C | 0.61  | -0.07  | 0.04  |
| Vitamin D | 0.36  | -0.05  | 0.00  |
| Vitamin E | 0.66  | -0.23  | 0.02  |
| Vitamin K | 0.59  | 0.10  | -0.08  |
| Salt equivalent | 0.68  | 0.15  | 0.07  |

Abbreviation: PUFA, polyunsaturated fatty acids