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Meiji Develops the Meiji NPS for Children Nutritional Value Scoring of Food to Enable Numerical Evaluations The first nutrition evaluation method for children that accounts for childhood growth and development in Japan

Aiming to provide products with high nutritional value and that incorporate the nutrients and food groups that are essential to children

Meiji Co., Ltd. (President and Representative Director: Bunjiro Yao) is pleased to announce the development of Meiji NPS for younger children and Meiji NPS for older children, Japan's first nutritional profiling systems (NPS) for children ages 3 to 5 and children ages 6 to 11. The results of this research were published in Frontiers in Nutrition (Wakayama, et al., Frontiers in Nutrition, 2025;12:1611286;https://doi.org/10 .3389/fnut.2025.1611286) on June 17, 2025. Meiji will use the Meiji NPS for younger children and Meiji NPS for older children to provide healthier products with greater nutritional value and that incorporate the nutrients and food groups that are necessary to childhood growth and development.

[Overview]

Ensuring appropriate nutrition is critical to the vital developmental years of children. Meiji has developed the Meiji NPS for younger children, which covers ages 3 to 5, and Meiji NPS for older children, which covers ages 6 to 11. Both versions of the Meiji NPS take into account the necessary nutrition required for the growth and development of children. During this research, we scientifically validated the Meiji NPS for younger children and Meiji NPS for older children.

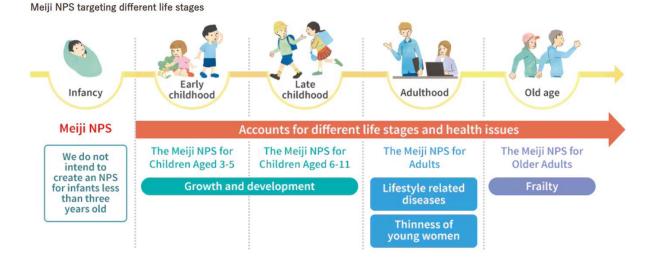


Fig. Meiji NPS targeting different life stages and health issues

[Previous initiatives related to the Meiji NPS]

NPSs are coming into focus as a concrete resolution to health issues related to food. An NPS is a method that scientifically evaluates the nutritional value of foods according to their nutritional composition.

The Meiji NPS is Meiji's proprietary nutritional profiling system*1 designed to reflect Japanese food culture and dietary habits. Aligned with the Meiji Nutrition Statement*2, which represents our approach to nutrition, Meiji NPS also incorporates elements such as national or regional differences and life stage. In 2024, we developed*3, *4 the Meiji NPS for Adults*5, which focuses on lifestyle

^{*}The individual Meiji NPS for toddlers, children, adults, and older adults are labeled respectively as NPS for younger children, NPS for older children, NPS for Adults, and NPS for Older Adults.

diseases and thinness among young women, and the Meiji NPS for Older Adults*6, which focuses on frailty.

[Research purpose and application of results]

In addition to our existing Meiji NPS for Adults and Older Adults, we believed Meiji NPS for younger and older children were also necessary because health issues differ with each life stage. By developing the Meiji NPS for younger and older children that focuses on the critical development stages of children, we will take childhood development into account in our development of products with higher nutritional value and product reformulation.

Paper Details [Paper title]

Development and Validation of the Meiji Nutritional Profiling System for Children

[Development of the Meiji NPS for Children]

- **-Design based on life stage:** We designed the Meiji NPS for younger children and the Meiji NPS for older children, which incorporate essential nutrition for the respective age ranges of Japanese children.
- **-Nutritional value evaluation method:** Following the Meiji NPS for Adults, the Meiji NPS for younger and older children calculate scores based on the amounts of nutrients to encourage (protein, dietary fiber, calcium, iron, vitamin D), nutrients to limit (energy, saturated fatty acids, sugar, and salt equivalent), and food groups to encourage (fruits, vegetables, nuts, legumes, and dairy). The Meiji NPS for younger and older children target the same nutrients and food groups as the Meiji NPS for Adults while also featuring a design that has age-appropriate reference daily values tailored to suit younger and older children.

[Adequateness validation of the Meiji NPS for Toddlers and Children]

- **Validation method:** To validate the adequateness of the Meiji NPS for younger and older children, we conducted a comparison against existing NPSs, the Nutrient-Rich Food Index 9.3 (NRF9.3)^{*7} and the WHO Nutrient Profiling Model (WHO Model)^{*8}.
- Comparison with NRF9.3: NRF9.3 is an NPS that is confirmed to have a positive correlation with the food quality of Japan. In a comparison with NRF9.3, both the Meiji NPS for younger children and the Meiji NPS for older children demonstrated a strong correlation (r=0.73, p<0.001). The results of this comparison indicated that the Meiji NPS for younger and older children are methods capable of evaluating the nutritional value of foods similarly to existing NPSs while also taking into account the development of Japanese children.</p>
- Comparison with the WHO Model: The WHO Model categorizes foods as healthy or not healthy based on the volume of nutritional elements contained in the food. Scores from the Meiji NPS for younger and older children indicated a significant difference between healthy foods and unhealthy foods as categorized by the WHO Model (p<0.001).
- *1: Meiji Nutritional Profiling System (Meiji NPS) official website Meiji Nutritional Profiling System (Meiji NPS) | Meiji Co., Ltd.
- *2: Meiji Nutrition Statement

As food and health professionals, Meiji Co., Ltd. embraces the Group Philosophy of continuously working to create value that is one step ahead as we pursue our mission to widen the world of "Tastiness and Enjoyment" and meet all expectations regarding "Health and Reassurance." We formulated the Meiji Nutrition Statement in 2021 to outline our approach to incorporating our Group Philosophy into our business and products. https://www.meiji.co.jp/corporate/nutrition/nutritionstatement/

*3: Meiji Nutritional Profiling System (Meiji NPS) official press releases https://www.meiji.com/global/news/2023/pdf/230630_01.pdf
https://www.meiji.com/global/news/2024/pdf/240415_01.pdf

*4: Meiji Nutritional Profiling System (Meiji NPS) academic papers Wakayama, *et al.*, Nutrients. 2024; 16(7):936; https://doi.org/10.3390/nu16070936 Yu, *et al.*, Frontiers in Nutrition. 2024; 11:1413980; https://doi.org/10.3389/fnut.2024.1413980 Wakayama, *et al.*, Nutrients 2024, 16(16), 2700; https://doi.org/10.3390/nu16162700

*5: Meiji NPS for Adults

The Meiji NPS for Adults focuses on lifestyle diseases and thinness among young women. The system sets nutrients to encourage as protein, dietary fiber, calcium, iron, vitamin D, nutrients to limit as energy, saturated fatty acids, sugar, and salt equivalent, and food groups to encourage as fruits, vegetables, nuts, legumes, and dairy.

*6: Meiji NPS for Older Adults

The Meiji NPS for Older Adults focuses on frailty. The system sets nutrients to encourage as protein, dietary fiber, calcium, and vitamin D, nutrients to limit for restriction as energy, sugar, and salt equivalent, and food groups to encourage as fruits, vegetables, nuts, legumes, and dairy.

*7: Nutrient-Rich Food Index 9.3

An NPS developed by Professor Adam Drewnowski of the University of Washington. This system scores food nutritional value based on nine nutrients to encourage (protein, dietary fiber, calcium, iron, potassium, magnesium, vitamin A, vitamin D (E), and vitamin C) and three nutrients to limit (added sugar, saturated fatty acids, and sodium).

*8: WHO Nutrient Profile Model

The WHO provides means to distinguish foods into healthy or unhealthy foods for implementing restrictions on food marketing for children. This research used the WHO Nutrient Profile Model for the Western Pacific Region, a standard developed by the WHO Regional Office for the Western Pacific, which includes Japan. https://iris.who.int/bitstream/handle/10665/252082/9789290617853-eng.pdf

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