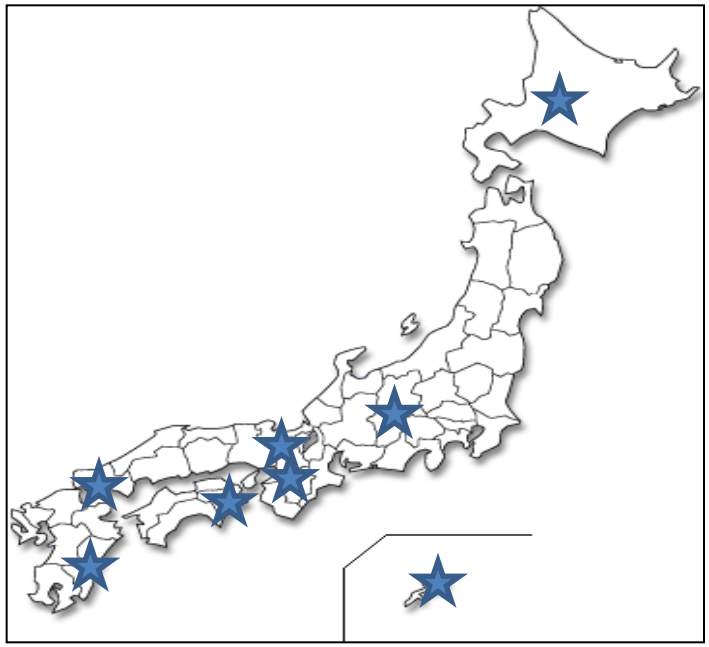
Sugar intakes by Japanese children

- By the previous studies (shown in our HP elsewhere) Japanese common sugars (sucrose, glucose, fructose and lactose) in 135 sugar rich foods and beverages (42 commercial beverages and chilled snacks, 64 commercial cakes and cookies, and 29 homemade cookies).
- A nutrition survey conducted for 3 weekdays with 362 Japanese school children (7, 10 and 13 years old) in 8 prefectures from different areas of Japan. The methods used in the survey were the weighing method for school lunches and the 24 hour recall method for other foods. Height and weight were measured before the survey.
- Height and weight were similar to Japanese averages. Energy intakes were also similar to the results of Japanese National Health and Nutrition Surveys. Mean intake of sugar eaten outside meals was 24.7±15.5g/day. From the Japanese National Health and Nutrition Survey conducted in 2009, the mean sucrose intake from meals for 7-14 year old children was 5.5g/day. Therefore the mean total sugar intake of these children was estimated to be about 30g/day. This was within the range of FAO/WHO recommendations (less than 10% of energy intakes, 49g for these children). Mean intakes among age groups were not significantly different in each gender ($p>0.05$), but the intakes for girls was lower than for boys in the oldest age group ($p<0.05$).
- Contributions of each sugar to total intake were; sucrose 64.4 ± 19.1% (mainly from baked goods), fructose 13.2 ± 10.4% (mainly from beverages, jelly and pudding), glucose 12.4 ± 8.4% (mainly from beverages, jelly and pudding) and lactose 8.8 ± 8.2% (mainly from milk beverages and yogurt). Contributions of food groups to the sugar intake were; beverages 25%, baked goods 19% and ice cream 17%. The sum of the sugar from these 3 food groups was more than 60% of daily intake. Fructose contained in non-juice beverages is usually from isomerized sugar. The use of isomerized sugar was assumed to be high. The effects of different sugars are presumed to be different, which suggests that we need to be careful not only about taste but also about health.
- No relationships were observed between sugar intake and body weight in all the groups.
- In conclusion, although the average sugar intake of Japanese children met the FAO/WHO recommendation, we have to be careful about the kinds of sugars and their effects on health.



Study area in Japan

Sugar intakes in various countries

Country	Intakes [g/day]
USA*1	124−142
UK *2	84
Holland *3	135
South Africa *4	42−59

出典:* National Health and Nutrition Examination Survey 2005-2006
** Family Food 2007
*** Dutch National Food Consumption Survey-Young children2005/2006
**** The National Food Consumption Survey; children aged 1-9years1999

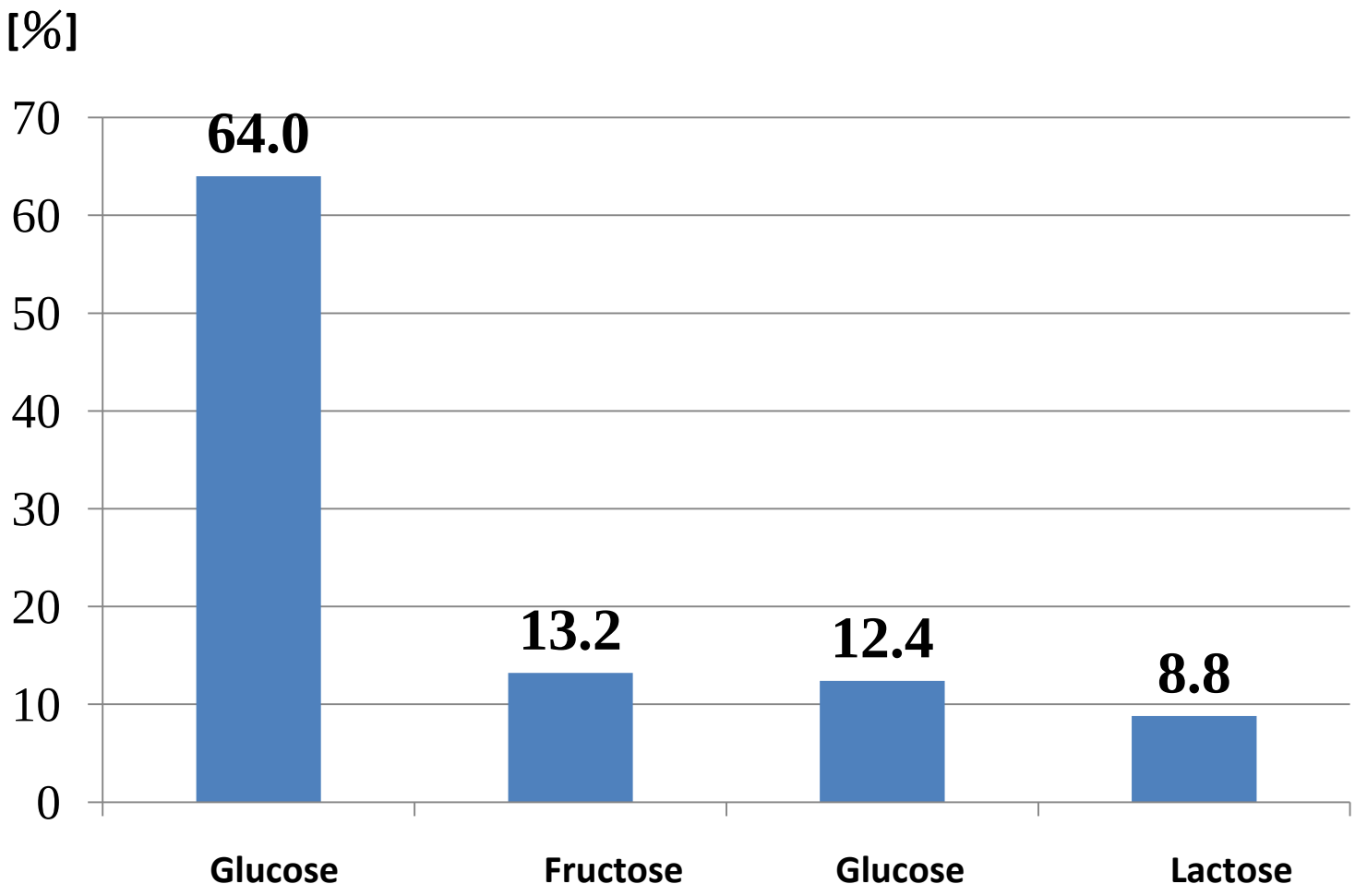
Sugar intakes from beverages and snacks

[g/day]

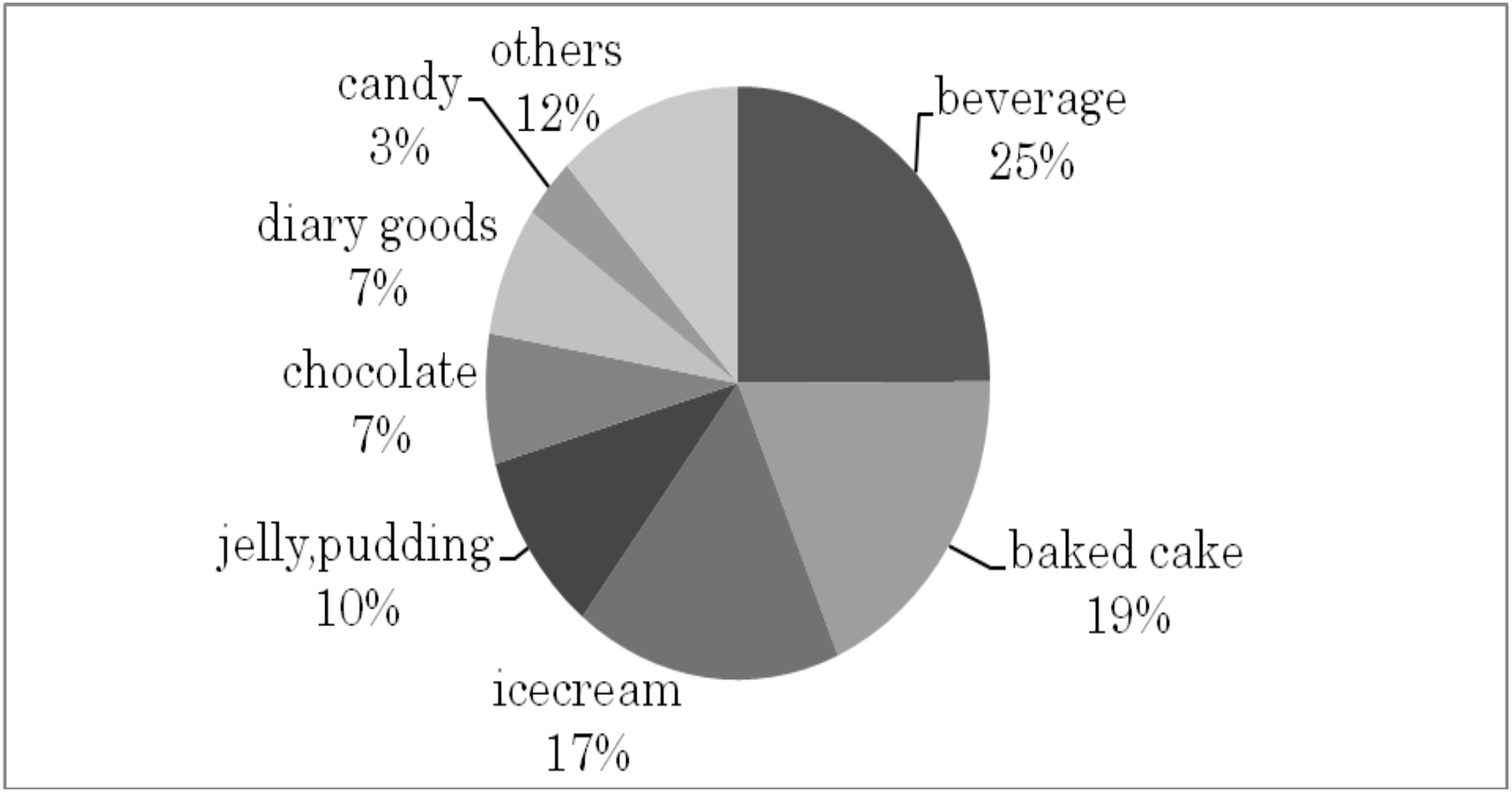
Age	gender	n	(A) sucrose	(B) glucose	(C) fructose	(D) lactose	(A)+(B)+(C)+(D) total
Years 7	boy	33	15.9 ± 9.4	3.1 ± 2.6 ^{abc}	3.5 ± 3.3 ^{abc}	2.5 ± 2.3	25.1 ± 14.6 ^{ab}
	girl	42	17.7 ± 11.7	3.5 ± 3.0 ^{abc}	3.8 ± 3.6 ^{abc}	2.4 ± 1.6	27.4 ± 15.9 ^{a}
10	boy	64	16.8 ± 9.8	3.2 ± 3.4 ^{abc}	3.4 ± 3.7 ^{abc}	2.2 ± 1.9	25.7 ± 14.2 ^{ab}
	girl	64	16.6 ± 9.5	3.4 ± 2.4 ^{abc}	3.6 ± 2.8 ^{abc}	2.4 ± 1.9	26.0 ± 12.7 ^{ab}
13	boy	42	14.6 ± 12.7	4.0 ± 4.2 ^{b}	4.4 ± 4.6 ^{b}	2.1 ± 3.1	25.0 ± 20.7 ^{ab}
	girl	38	12.0 ± 11.2	2.0 ± 2.4 ^{c}	2.1 ± 2.7 ^{c}	1.4 ± 1.7	17.5 ± 14.3 ^{b}
Mean			15.8 ± 10.7	3.2 ± 3.1	3.5 ± 3.5	2.2 ± 2.1	24.7 ± 15.5

Values are mean ±SD.

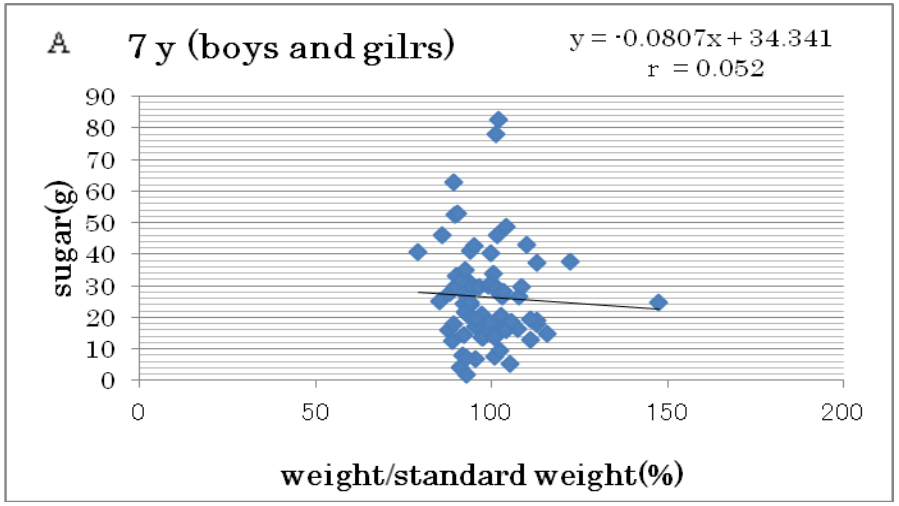
Figures with different superscript alphabet in the same column are significantly different assessed by one-way ANOVA and then Tukey's multiple comparison test ($p < 0.05$).

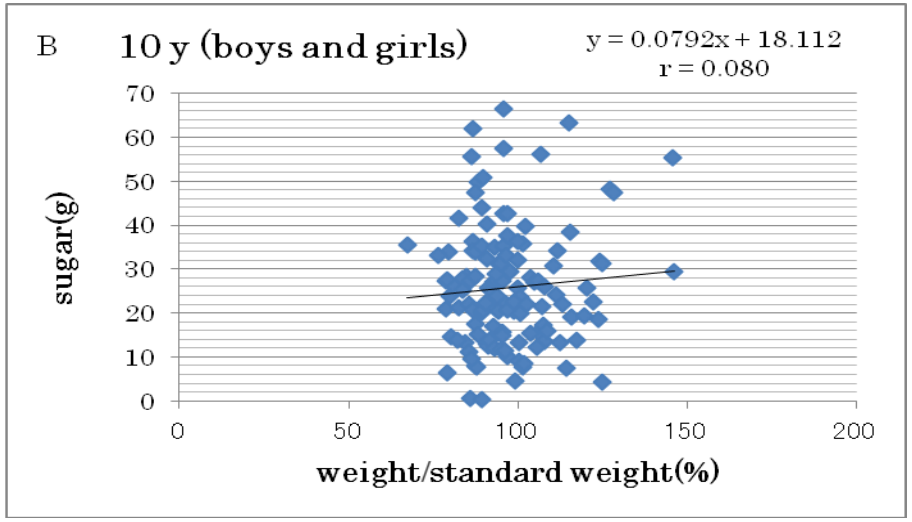


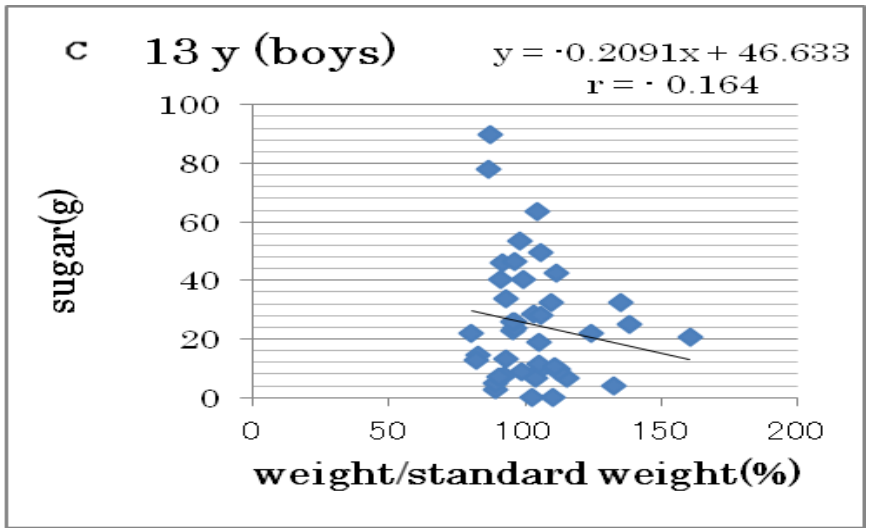
The contribution of each sugar to the total sugar intake

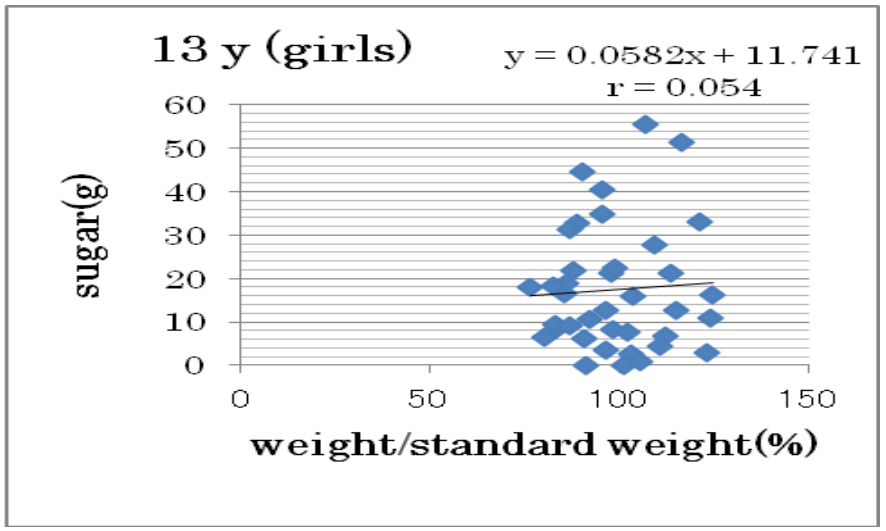


Contributions of various food groups to total sugar intake









Relationships between body weight and sugar intake at 7 (A) and 10 (B) years old children and 13 years old boys (C) and girls (D).