The Share of Children with Uncorrected Vision Below 1.0 in 2025 Was 24.09% at Age 6, 53.52% at 12, and 71.89% at 17, and a Group Aged 6 in the Same Year Rises by 47.86–54.71 Points by Age 17 — Of This, the Part from Changing Age Within the Same Year's Table Is 0.862–0.890 and the Part from Changing the Year at the Same Age Is 0.110–0.138, So Most of the Rise Has the Shape of the Difference Between Ages, Not of Movement Over the Years [M106]

Rise of a group = age part (change age within the same year) + year part (change the year at the same age) ── What separates them is whether you change age within the same year or change the year at the same age

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Abstract

Using the Ministry of Education, Culture, Sports, Science and Technology's School Health Statistics Survey (yearly statistics Table 15, disease and abnormality rates by school type, school years 1979–2025; tables by age, 2008–2025), this paper looked at the shape of the share of children with uncorrected vision below 1.0. The share rises as the years pass and also as age rises. It asks how much moves with each. No new mathematical theorem and no new law are claimed.

First, **the share with vision below 1.0 rose from 1979 to 2025 from 17.91% to 36.07% in elementary school, from 35.19% to 59.35% in junior high, and from 53.02% to 71.51% in senior high. Among comparable years, the maximum was in 2024 for elementary and junior high school (36.84% and 60.61%) and in 2025 for senior high. Kindergarten started at 16.47%, peaked at 28.93% in 2008, and was 23.90% in 2025** (Section 4).

Second, **lining up ages within the same year, 2025 gives 24.09% at 6, 53.52% at 12, and 71.89% at 17, a difference of +47.80 points between 17 and 6 (+39.05 in 2008). Comparing 2008 and 2025 at the same age gives +4.52 points at 6, +5.37 at 12, and +13.27 at 17, and the largest is +14.79 at 16** (Section 5).

Third, this is the core of the paper. **Splitting the rise of a group aged 6 in the same year until it reaches 17 (+47.86 to +54.71 points across 3 groups) into the part from changing age within the same year's table and the part from changing the year at the same age, the age part was 0.862–0.890 and the year part 0.110–0.138. From 6 to 12 (8 groups), the age part was 0.882–1.010** (Section 6).

Fourth, **by category the rise leans toward below 0.3. At 17, below 0.3 rose from 29.98% in 2008 to 43.71% in 2025, while 0.7 to below 1.0 went from 12.27% to 11.10%** (Section 7).

Fifth, **the share at age 6 was lowest in 2013 (17.77%) and then rose to 24.09% in 2025. Only age 5 fell from 2008 to 2025, from 28.93% to 23.90%** (Section 5).

Sixth, what separates them is **whether you change age within the same year or change the year at the same age**. When you hear that "the number of children with vision below 1.0 is the highest ever," check how large that rise is compared with the difference between ages.

Scope note: **This paper claims no new mathematical theorem and no new law** — the share with uncorrected vision by age is in public tables, and this paper only took differences and split them into an age part and a year part as the average of two paths. **This paper is a structural interpretation of the shape of numbers in public aggregate data; it is not medical advice, not a diagnosis, and not a treatment recommendation. The author is not a physician. Decisions about individual health should be discussed with a physician or a medical institution. This is a preprint that has not been peer reviewed. The numbers are values over groups of children and are not a standard for judging any one child's vision. The reasons vision declines (time spent looking at near objects, time spent outdoors, screen use, and so on) cannot be separated with these tables and are not discussed.** The "age part" is the difference between ages in the same year's table and includes differences between birth years as well as the effect of age itself. Age, year, and birth year cannot be separated into one determined answer with these tables. The numbers are estimated shares from health checks, and the notes give standard errors by school type (larger for senior high school and kindergarten). Following the note to Table 10, 2020–2023 were excluded from the comparisons. The tables measure different children each year, not the same children. **About the data**: the School Health Statistics Survey (Ministry of Education, Culture, Sports, Science and Technology) was taken from e-Stat and used under the Government of Japan Standard Terms of Use (Version 2.0); the differences, age part, year part, and their shares in this paper were processed from it. What this paper adds: **splitting the rise of groups of children who were the same age in the same year into an age part and a year part, and lining them up**.

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1. Notation and question

- **Share below 1.0, P(a, y)**: the share of children aged a in year y whose uncorrected vision (vision without glasses and the like) is below 1.0 (%). Children who correct their vision are also counted by their uncorrected value.

- **Group**: children who were aged a0 in year y0, seen at age a1 in year y1 = y0 + (a1 − a0). This does not follow the same children.
- **Age part and year part**: the rise P(a1, y1) − P(a0, y0) is split as the average of two paths. Path 1 first changes age from a0 to a1 in the year-y0 table (age part), then changes the year from y0 to y1 at age a1 (year part). Path 2 first changes the year at age a0 (year part), then changes age in the year-y1 table (age part). The two parts sum exactly to the rise.

Question: Does the rise in the share with uncorrected vision below 1.0 happen with age or with the years?

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2. Preview and design

Written honestly: the design was decided after looking at the tables.

	Content
Tables	Yearly statistics Table 15 (1979–2025), tables by age (18 tables, 2008–2025), Table 10 (only to read its note)
Noticed in the preview	The difference between 6 and 17 in the same year (+39.05 points in 2008, +47.80 in 2025) is much larger than the 2008→2025 difference at the same age (+14.79 at 16, the largest)
Noticed in the preview (2)	A group aged 6 in a given year appears in the table 11 years later at age 17, so its rise can be split into an age part and a year part
Noticed in the preview (3)	Values at ages 15–17 swing a lot from year to year, and the standard errors in the notes are larger for senior high school, so the 12→17 groups are not used for the core
Comparison	Long-term series by school type, the table of age and year, the split of group rises (6→17, 6→12, 12→17), categories (0.7–1.0, 0.3–0.7, below 0.3), and the share of children correcting their vision

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3. Data and checks

Calculation 3.1 The 20 retrieved files were fixed by SHA-256, and the following were checked.

- The note to Table 10 says that Reiwa 2–5 include data measured at different times and cannot be compared with past values, and that the same applies to the following tables. Table 15 comes after Table 10, so 2020–2023 were excluded from the comparisons.
- In all 18 tables by age, the total below 1.0 and the three categories can be read for the 13 ages 5–17, and the sum of the three categories = the total holds within rounding to 0.01. In the format used from 2012 onward (14 years), total = 100 − (not corrected, 1.0 or above) − (corrected, 1.0 or above) and category = not corrected + corrected hold within rounding to 0.05.
- Table 15 has values for 1979–2025 (47 years) for all four school types, and the sum of the three categories = the total holds within rounding to 0.01. The difference between the value by school type in Table 15 and the simple average of ages in the tables by age is within 0.37 points for elementary school, 0.10 for junior high, and 0.05 for senior high in the 14 comparable years.
- The standard errors for uncorrected vision in the notes range over the 18 years from 1.06 to 2.22 for kindergarten, 0.19 to 0.41 for elementary school, 0.44 to 1.09 for junior high, and 0.52 to 1.60 for senior high (1.06, 0.30, 0.77, and 0.56 in 2025).

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4. Long-term series by school type

Calculation 4.1 Share with uncorrected vision below 1.0 (Table 15, %)

Year	Kindergarten	Elementary	Junior high	Senior high
1979	16.47	17.91	35.19	53.02
1990	18.63	21.22	41.58	56.38
2000	28.69	25.33	49.99	62.45
2010	26.43	29.91	52.73	55.64
2019	26.06	34.57	57.47	67.64
2024	26.53	36.84	60.61	71.06
2025	23.90	36.07	59.35	71.51

Observation 4.2: **From 1979 to 2025, elementary, junior high, and senior high school all rose. Among comparable years, the maximum was in 2024 for elementary and junior high school, in 2025 for senior high, and in 2008 for kindergarten (28.93).** In every one of the 43 comparable years the order is elementary < junior high < senior high, and kindergarten was higher than elementary school in 12 years between 1980 and 2002.

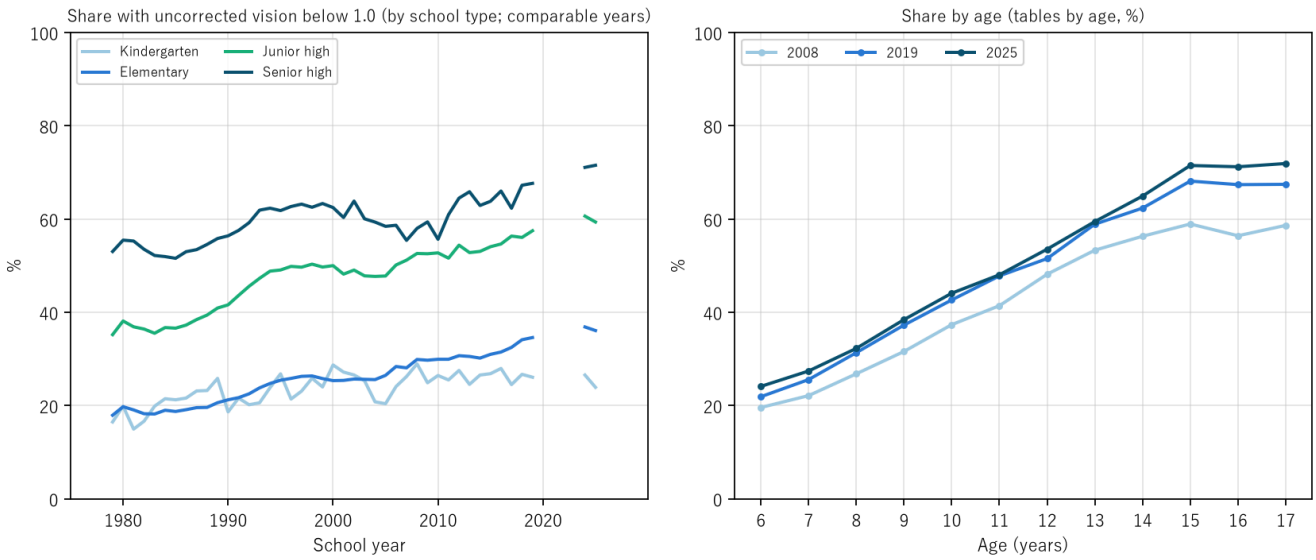


Figure 1: Left, the share with uncorrected vision below 1.0 by school type (comparable years only). Right, the share by age in 2008, 2019, and 2025 (tables by age).

5. The table of age and year

Calculation 5.1 Share with uncorrected vision below 1.0 (tables by age, %)

Age	2008	2013	2019	2024	2025	2008→2025
6	19.57	17.77	21.88	23.96	24.09	+4.52
9	31.58	33.69	37.24	38.63	38.41	+6.83
12	48.15	47.63	51.50	55.73	53.52	+5.37
14	56.29	56.59	62.33	63.55	64.91	+8.62
16	56.40	66.32	67.36	70.73	71.19	+14.79
17	58.62	66.65	67.43	72.48	71.89	+13.27

Observation 5.2: **The difference between 17 and 6 in the same year is +39.05 points in 2008, +45.55 in 2019, and +47.80 in 2025. The 2008→2025 difference at the same age is a rise at every age from 6 to 17; the largest is +14.79 at 16, and it is +4.52 at 6. Only age 5 fell, from 28.93 to 23.90.** The minimum at age 6 was 17.77 in 2013, after which it rose.

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6. The core — splitting a group's rise into an age part and a year part

Calculation 6.1 Rise of groups that were the same age in the same year (points)

Group	Years	Rise	Age part	Year part	Share of age part
Ages 6→17	2008→2019	+47.86	+42.30	+5.56	0.884
Ages 6→17	2013→2024	+54.71	+48.70	+6.01	0.890
Ages 6→17	2014→2025	+53.66	+46.23	+7.43	0.862
Ages 6→12	2008→2014	+29.35	+29.63	−0.28	1.010
Ages 6→12	2013→2019	+33.73	+29.74	+3.99	0.882
Ages 6→12	2018→2024	+34.32	+30.95	+3.37	0.902
Ages 6→12	2019→2025	+31.64	+29.53	+2.12	0.933

Observation 6.2: **Of the rise of +47.86 to +54.71 points for groups aged 6 in the same year until they reach 17, the age part is 0.862–0.890 and the year part 0.110–0.138. For the 8 groups from 6 to 12, the age part is 0.882–1.010.** In every group, the two parts sum exactly to the rise.

Observation 6.3: For the 8 groups from 12 to 17, the share of the age part swings widely, 0.689–1.146. Values at 15–17 swing a lot from year to year (at 17: 55.25 in 2010, 61.66 in 2011, 67.44 in 2012), and the standard errors in the notes are larger for senior high school, so these groups were not used for the core.

Observation 6.4: The "age part" is the difference between ages in the same year's table and includes differences between birth years. A year part of about one tenth means only that most of the rise has the same shape as "the difference between the ages lined up in that year."

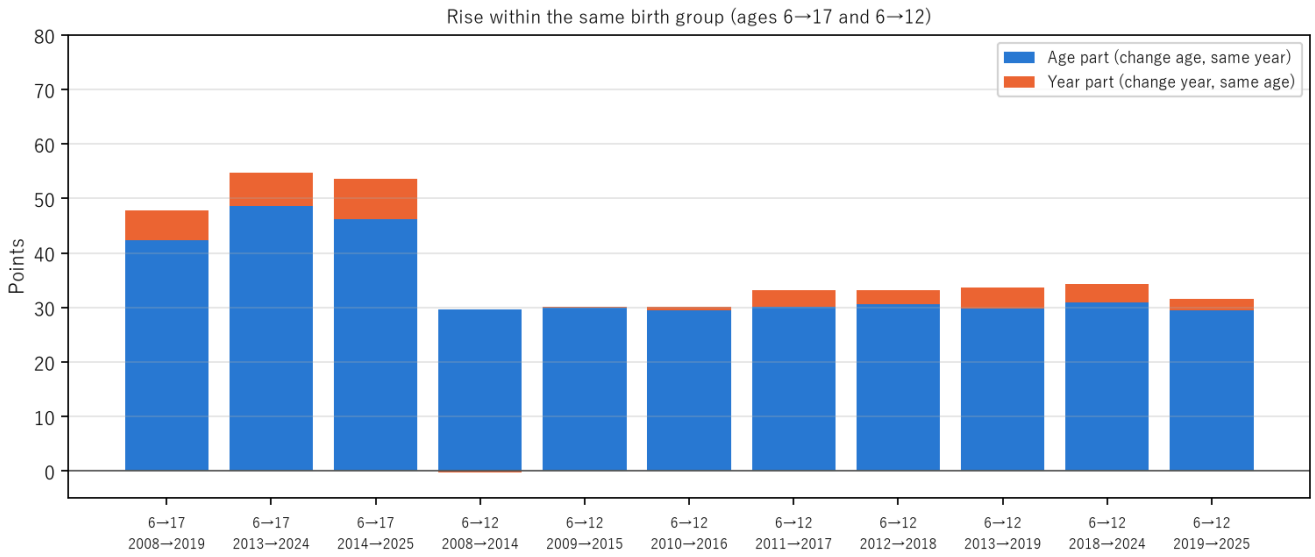


Figure 2: Rise of groups that were the same age in the same year (3 groups from 6 to 17, 8 groups from 6 to 12). Blue is the age part, orange the year part.

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7. Categories and children correcting their vision

Calculation 7.1 Share by category (tables by age, %)

Age, year	0.7 to below 1.0	0.3 to below 0.7	Below 0.3	Total
6, 2008	13.21	5.38	0.98	19.57
6, 2025	14.80	7.68	1.61	24.09
12, 2008	12.33	16.85	18.97	48.15
12, 2025	13.12	18.05	22.35	53.52
17, 2008	12.27	16.37	29.98	58.62
17, 2025	11.10	17.08	43.71	71.89

Observation 7.2: **The rise at 17 leaned toward below 0.3 (29.98 → 43.71; 0.7 to below 1.0 went from 12.27 to 11.10). At 6, all three categories rose.**

Observation 7.3: The share of "children correcting their vision" in the table was 42.58% in 2012 → 45.19% in 2019 → 51.36% in 2025 at age 17, 24.20 → 22.89 → 25.98% at 12, and 1.22 → 2.03 → 2.93% at 6. This share exists only in the format used from 2012 onward.

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8. Limitations

1. **The numbers are values over groups of children and are not a standard for judging any one child's vision. The reasons vision declines cannot be separated and are not discussed.**
2. The "age part" is the difference between ages within the same year and includes differences between birth years. Age, year, and birth year cannot be separated into one determined answer with these tables. The split in this paper is one choice, the average of two paths.
3. The tables measure different children each year, not the same children.
4. The numbers are estimates, and ages 15–17 and 5 swing a lot from year to year. The 12→17 groups were not used for the core.
5. 2020–2023 were excluded following the note to Table 10.
6. The tables by age start in 2008; earlier groups were not split.

Conclusion

In 2025 the share of children with uncorrected vision below 1.0 was 24.09% at 6, 53.52% at 12, and 71.89% at 17. Of the rise of +47.86 to +54.71 points for groups aged 6 in the same year until they reach 17, the part from changing age within the same year's table was 0.862–0.890 and the part from changing the year at the same age was 0.110–0.138. There is a rise as the years pass, but the difference between ages is much larger.

What separates them is one thing — whether you change age within the same year or change the year at the same age.

When you hear that "the number of children with vision below 1.0 is the highest ever," **check which age the number is for and how large it is compared with the difference between ages.**

Data and reproduction

Data	School Health Statistics Survey, yearly statistics Table 15, disease and abnormality rates by school type (1948–2025), and Table 10 (for its note); School Health Statistics Survey, national tables, disease and abnormality rates by age (18 tables, 2008–2025) (Ministry of Education, Culture, Sports, Science and Technology, e-Stat) (retrieved 26 and 27 September 2026)
Terms of use	e-Stat follows the Government of Japan Standard Terms of Use (Version 2.0). The differences, age part, year part, and their shares in this paper were processed from it and are not numbers produced by the government
Coverage	Japan; 1979–2025 (by school type); 2008–2025 (ages 5–17)
Verification	`検算/M106.py` (`--zu` also draws the figures). Every number in the text is taken from `検算/M106_output.txt`
Raw data	`data/` holds the retrieved files and `SOURCES.md` (URLs, retrieval dates, SHA-256, terms of use, definitions and how the calculations were set up)
Figures	`図/M106_zu1` and `図/M106_zu2` (png, svg, English versions)

References

- Ministry of Education, Culture, Sports, Science and Technology. School Health Statistics Survey, yearly statistics, Table 15: Disease and abnormality rates by school type (1948–2025) (in Japanese). e-Stat (accessed 27 September 2026). https://www.e-stat.go.jp/
- Ministry of Education, Culture, Sports, Science and Technology. School Health Statistics Survey, national tables, Table 5 (2008–2015) and Table 4 (2016–2025): Disease and abnormality rates by age, city

size, and school establishment (in Japanese). e-Stat (accessed 26 September 2026). https://www.e-stat.go.jp/