The Share of Deliveries That Are Twins or More Rose from 0.8971% in 1995 to 1.1751% in 2005, Fell to 0.9642% in 2011, and Reached 1.2813% in 2024 — This Peak and Trough Were Made by Change Within the Same Mother's Age (in Births, −0.4924 Points in 2005→2011 and +0.5383 in 2011→2024), While the Composition by Mother's Age Pushed Slightly Upward in Every Period. Triplets or More Fell from 3.05 to 1.66 per 10,000 Deliveries [M103]

Change in the share of multiple births = part from the composition by mother's age + part within the same age ── What separates them is how mothers' ages are distributed, or whether the share moved at the same age

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Abstract

Using the singleton/multiple tables of the Ministry of Health, Labour and Welfare's Vital Statistics (Table 4.36: deliveries by year, 24 rounds from 1995 to 2024; Table 4.28: singleton and multiple births by mother's age, 1995, 2005, 2011, and 2024), this paper looked at the yearly shape of the share of twins, triplets, and higher multiples (multiple births) and how far the composition by mother's age explains it. No new mathematical theorem and no new law are claimed.

First, **the share of deliveries (mothers who gave birth) that are multiple rose from 0.8971% in 1995 to 1.1751% in 2005, fell to 0.9642% in 2011, and was 1.2813% in 2024, the largest of the 24 rounds. Triplets or more fell from 3.05 per 10,000 deliveries in 1995 to 1.66 in 2024** (Section 4).

Second, this is the core of the paper. **Splitting the share of multiple births (counted in children born) into the part from the composition by mother's age and the part within the same age, the fall of −0.4040 points in 2005→2011 was a composition part of +0.0884 and a within-age part of −0.4924, in opposite directions. The rise of +0.6257 points in 2011→2024 is a composition part of +0.0874 (0.140) and a within-age part of +0.5383.** The peak and trough were made by change within the same age (Section 5).

Third, **over 1995→2024, of the +0.7684-point rise, the composition part is +0.2414 (0.314) and the within-age part +0.5271. In each of the 6 mother's-age groups, the share of multiple births is larger in 2024 than in 1995. In 2024 it rises with age, from 1.4197% at 20–24 to 3.6169% at 40 and over** (Section 5).

Fourth, **counting deliveries or births makes the share of multiples differ by about 2 times (in 2024, 2.4927% of births and 1.2813% of deliveries, ratio 1.945).** One twin delivery counts as two births (Section 6).

Fifth, with the 7 age groups of the table as is, multiple births to mothers aged 45 and over in 1995 are fewer than 10. This paper used 6 groups, combining 40–44 and 45 and over (Section 3).

Sixth, what separates them is **how mothers' ages are distributed, or whether the share moved at the same age**. "Twins have increased (decreased)," over the movement since 1995, moved more with change within the same age than with the composition by mother's age.

Scope note: **This paper claims no new mathematical theorem and no new law** — deliveries and births by mother's age are in public tables, and this paper only computed shares and split them into the composition by mother's age and the within-age part. **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 reasons the share moved within the same age (including medical care such as fertility treatment) cannot be separated with these tables, and the effectiveness or merits of medical care are not discussed. Twins and triplets are not called good or bad.** Mother's age was grouped into 6 groups, combining 40–44 and 45 and over, so as not to show cells under 10. The split is one choice, weighting by the average of the two years. Deliveries in Table 4.36 include stillbirths, while Table 4.28 counts live births only; they are different numbers. Births by mother's age were examined for only 4 years: 1995, 2005, 2011, and 2024. **About the data**: the Vital Statistics (Ministry of Health, Labour and Welfare) were taken from e-Stat and used under the Government of Japan Standard Terms of Use (Version 2.0); the shares, numbers per 10,000 deliveries, composition by mother's age, split, and ratios in this paper were processed from them. What this paper adds: **splitting the peak and trough of the yearly share of twins and triplets into the composition by mother's age and the within-age part, and showing that the peak and trough were made by change within the same age**.

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1. Notation and question

- **Singleton / multiple**: whether one baby or two or more (twins, triplets, …) were born in one delivery.
- **Share of multiples among deliveries**: multiple deliveries ÷ (singleton + multiple deliveries). Deliveries are the number of mothers who gave birth (live births and stillbirths).
- **Share of multiples among births**: multiple births ÷ births (excluding age not stated).

- **Split**: share of multiples among births = Σ (composition by mother's age × share of multiples at that age). The difference between two years is split into the part from the change in composition and the within-age part, weighting by the average of the two years. The two sum exactly to the difference.

Question: Can the peak and trough in the yearly share of multiple births be explained by the composition by mother's age?

Observation 1.1: M101 split the change in mothers' mean age at birth into the part from the composition by birth order and the part within the same order. This paper splits the share of multiple births into the composition by mother's age and the within-age part.

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2. Preview and design

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

	Content
Tables	Vital Statistics 2024, Volume 1, Table 4.36 (deliveries by singleton/multiple and year) and Table 4.28 (singleton and multiple births by mother's age) for 2024, 2011, 2005, and 1995
Noticed in the preview	The share of multiples among deliveries has a peak around 2005 and a trough around 2011, and is largest in 2024. Triplets or more are decreasing
Noticed in the preview (2)	Singleton/multiple births by mother's age are in Table 4.28, and the same table is available for earlier years. The peak (2005) and trough (2011) years were also taken
Noticed in the preview (3)	Multiple births to mothers aged 45 and over in 1995 were fewer than 10. They are used combined into 40 and over
Comparison	Yearly shares of multiples, twins, and triplets or more among deliveries; share of multiples by mother's age; the split for 1995→2005, 2005→2011, 2011→2024, and 1995→2024; and deliveries versus births

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3. Data and checks

Calculation 3.1 The 5 retrieved files were fixed by SHA-256, and the following were checked.

- Table 4.36: 24 rounds, 1995, 2000, and 2003–2024. Multiple = twins + triplets + quadruplets + quintuplets + sextuplets + septuplets (24 rounds). Total ≥ singleton + multiple (the total includes not stated as to singleton or multiple). The notes say deliveries are the number of mothers who gave birth (live births and stillbirths).
- Table 4.28 (1995, 2005, 2011, 2024): total, singleton, and multiple × 7 mother's-age groups can be read, and singleton + multiple = total.
- With the 7 age groups as is, the only cell with fewer than 10 multiple births is age 45 and over in 1995; with the 6 groups combining into 40 and over, there are no cells under 10.

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4. Yearly shape in deliveries

Calculation 4.1 Shares of multiples and twins among deliveries, and triplets or more

Year	Deliveries	Share of multiples	Share of twins	Triplets or more (per 10,000 deliveries)
1995	1,214,982	0.8971%	0.8666%	3.05
2000	1,216,070	1.0232%	0.9956%	2.76
2005	1,081,340	1.1751%	1.1518%	2.33
2011	1,066,112	0.9642%	0.9496%	1.45
2015	1,017,987	1.0015%	0.9889%	1.26
2020	849,037	1.0520%	1.0353%	1.67
2024	692,507	1.2813%	1.2647%	1.66

Observation 4.2: **The share of multiples among deliveries rose from 0.8971% in 1995 to 1.1751% in 2005; after 2005 the smallest is 0.9642% in 2011, and 1.2813% in 2024 is the largest of the 24 rounds. Triplets or more fell from 3.05 per 10,000 deliveries in 1995 to 1.66 in 2024.**

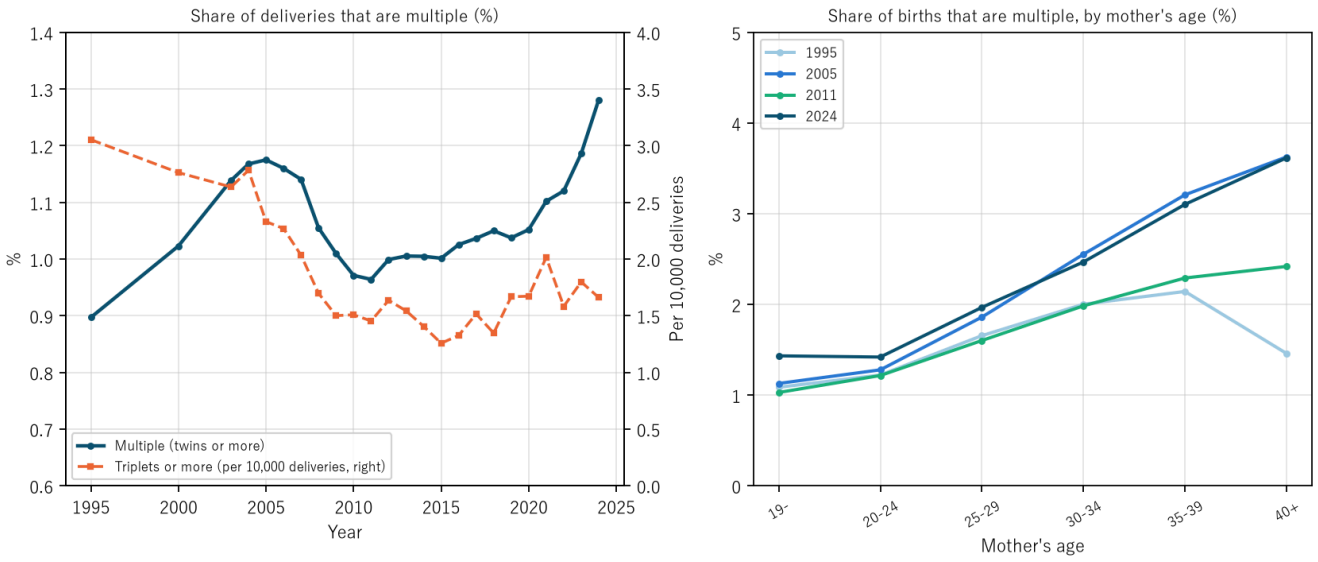


Figure 1: Left, share of multiples among deliveries (navy, left axis) and triplets or more (orange dashed, per 10,000 deliveries, right axis). Right, share of multiples among births by mother's age (1995, 2005, 2011, 2024).

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5. The core — composition by mother's age and the within-age part

Calculation 5.1 Share of multiples among births (by mother's age, %)

Year	19 and under	20–24	25–29	30–34	35–39	40 and over
1995	1.0861	1.2211	1.6551	2.0020	2.1429	1.4589
2005	1.1283	1.2783	1.8599	2.5530	3.2091	3.6269
2011	1.0287	1.2156	1.6016	1.9840	2.2913	2.4190
2024	1.4326	1.4197	1.9670	2.4680	3.1034	3.6169

Calculation 5.2 Splitting the difference in the share of multiples among births (points)

Period	Difference	Composition by mother's age	Within the same age
1995→2005	+0.5467	+0.1172	+0.4296
2005→2011	−0.4040	+0.0884	−0.4924
2011→2024	+0.6257	+0.0874	+0.5383
1995→2024	+0.7684	+0.2414	+0.5271

Observation 5.3: **In 2005→2011, although the composition by mother's age pushed upward (+0.0884), the within-age part (−0.4924) pulled down strongly, and the share fell. Of the rise in 2011→2024, 0.140 is the composition part and the rest is within the same age. Over 1995→2024, the composition part is 0.314.** The composition by mother's age pushed the share of multiples upward in all 4 periods (+0.0874 to +0.1172). In each of the 6 age groups the share is larger in 2024 than in 1995, and in 2024 it rises with age from 20–24 to 40 and over. The reason the share moved within the same age is not known from these tables.

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6. Counting deliveries or births

Observation 6.1: **The share of multiples among births is about 2 times that among deliveries (1995: 1.7243% and 0.8971%, ratio 1.922; 2005 1.933; 2011 1.936; 2024: 2.4927% and 1.2813%, ratio 1.945).** One twin delivery counts as two births, and triplets as three. Deliveries also include stillbirths. When you hear "the share of multiple births," check whether it is a share of deliveries (mothers) or of births (children).

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7. Limitations

1. **The reasons the share moved within the same age (including medical care) cannot be separated with these tables, and the effectiveness or merits of medical care are not discussed.** Twins and triplets are not called good or bad.

2. Mother's age was grouped into 6 groups so as not to show cells under 10. Single years of age were not examined.
3. Births by mother's age cover only 4 years; the years in between are not split.
4. Deliveries include stillbirths, while births by mother's age are live births only; the two tables are different numbers.

Conclusion

The share of deliveries that are twins or more rose from 0.8971% in 1995 to 1.1751% in 2005, fell to 0.9642% in 2011, and reached 1.2813% in 2024. This peak and trough were made not by the composition by mother's age but by change within the same mother's age. The composition by mother's age pushed slightly upward in every period. Triplets or more decreased.

What separates them is one thing — how mothers' ages are distributed, or whether the share moved at the same age.

When you hear that "twins have increased (decreased)," **check together whether it still moves with mother's age held fixed, and whether it counts deliveries or births.**

Data and reproduction

Data	Vital Statistics 2024, Volume 1, Tables 4.36 and 4.28; Vital Statistics 2011, 2005, and 1995, Volume 1, Table 4.28 (Ministry of Health, Labour and Welfare, e-Stat) (retrieved 26 September 2026)
Terms of use	e-Stat follows the Government of Japan Standard Terms of Use (Version 2.0). The shares, numbers per 10,000 deliveries, composition by mother's age, split, and ratios in this paper were processed from it and are not numbers produced by the government
Coverage	Japan; deliveries in 24 rounds from 1995 to 2024; births by mother's age in 1995, 2005, 2011, and 2024
Verification	`検算/M103.py` (`--zu` also draws the figure). Every number in the text is taken from `検算/M103_output.txt`
Raw data	`data/` holds the retrieved files and `SOURCES.md` (URLs, retrieval date, SHA-256, terms of use, definitions and how the calculations were set up)
Figures	`図/M103_zu1` (png, svg, English version)

References

- Ministry of Health, Labour and Welfare. Vital Statistics 2024, final figures, Volume 1, births, Tables 4.36 and 4.28 (in Japanese). e-Stat (accessed 26 September 2026). https://www.e-stat.go.jp/
- Ministry of Health, Labour and Welfare. Vital Statistics 2011, 2005, and 1995, final figures, Volume 1, births, Table 4.28 (in Japanese). e-Stat (accessed 26 September 2026). https://www.e-stat.go.jp/
- Yamagishi, Y. (2026). Mothers' Mean Age at Birth Fell from 28.7 in 1950 to 27.4 in 1975, Yet the Mean Age for 1st, 2nd, and 3rd Children All Rose — the Fall Was the Composition Part (−2.432 Years) from Births of 4th or Later Children Falling by 0.2591 in Share, and 0.990 of the 4.9-Year Rise from 1975 to 2024 Is the Rise Within the Same Birth Order [M101]. Zenodo (unpublished).