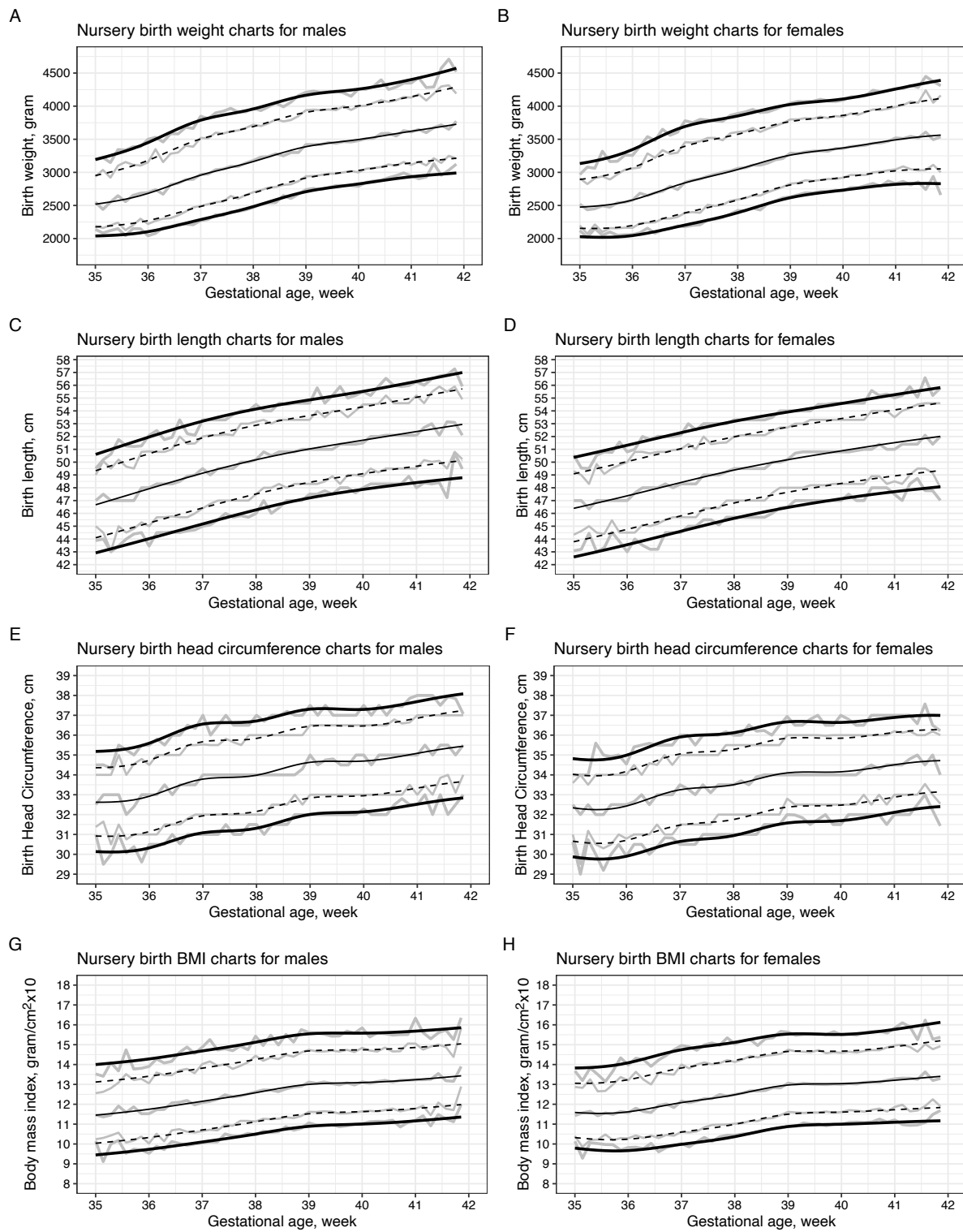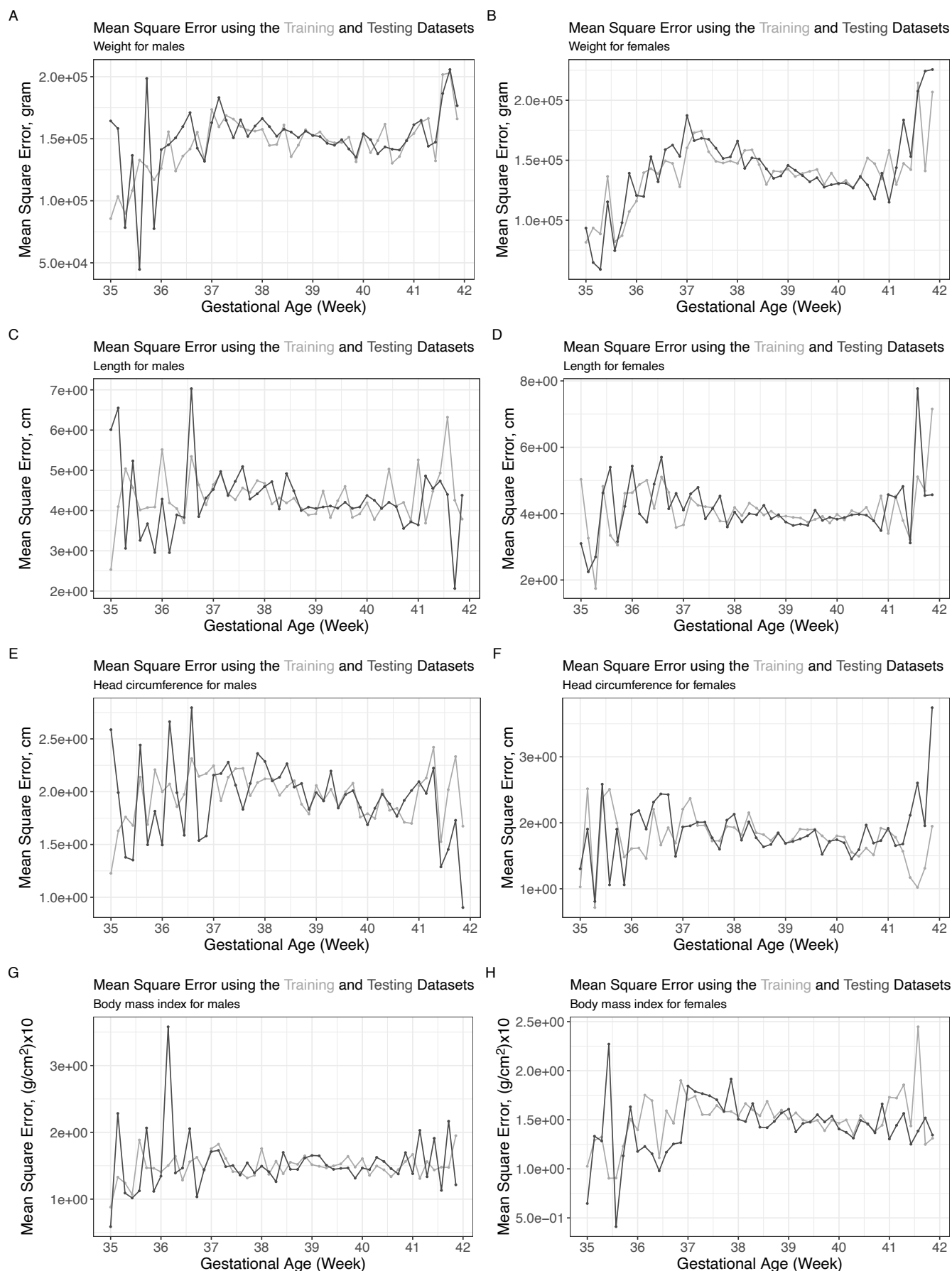**Supplemental Figure 1. The modeled birth-size percentile curves, superimposed with the corresponding percentiles derived from the raw data, are presented.** Birth-size reference charts for weight (A for males, B for females), length (C for males, D for females), head circumference (E for males, F for females), and body mass index (G for males, H for females) are shown, encompassing the 3rd, 10th, 50th, 90th, and 97th percentile curves arranged from bottom to top. The irregular grey lines overlaying the curves represent the actual percentiles computed from the raw input data for each gestational day.
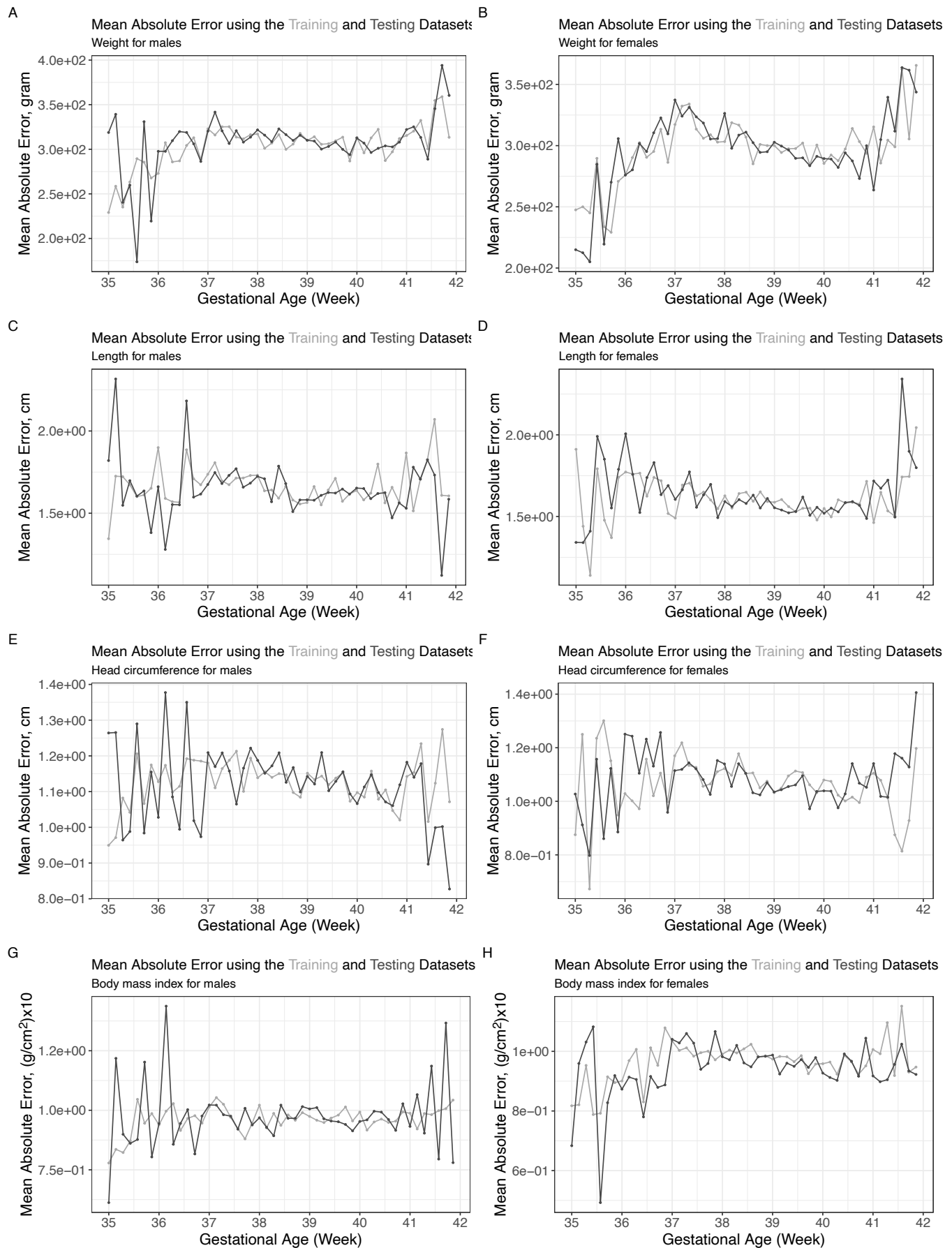

From bottom to top: the 3rd, 10th, 50th, 90th, and 97th percentile curve.
Grey irregular lines represent percentiles from the raw data for each gestational day.
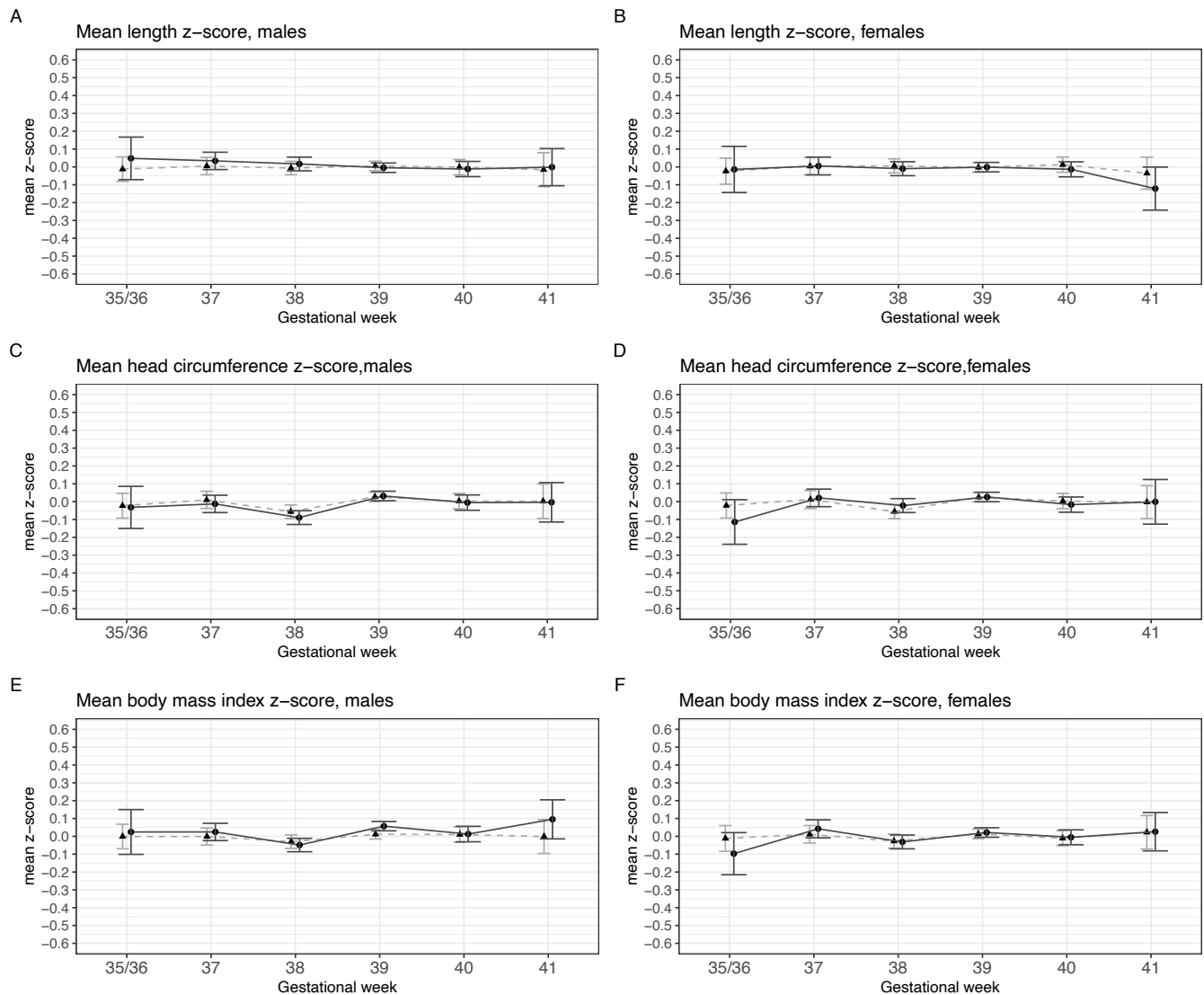
Supplemental Figure 2. Assessing overfitting bias using mean square error. Mean square error plots of weight (A,B), length (C,D), head circumference (E,F), and body mass index (G,H) models against gestational age in days for males (A,C,E,G) and females (B,D,F,H) are shown. The errors were calculated using the training (light) and the validation (dark) datasets. Refer to text for details on the construction of the training and the validation datasets.
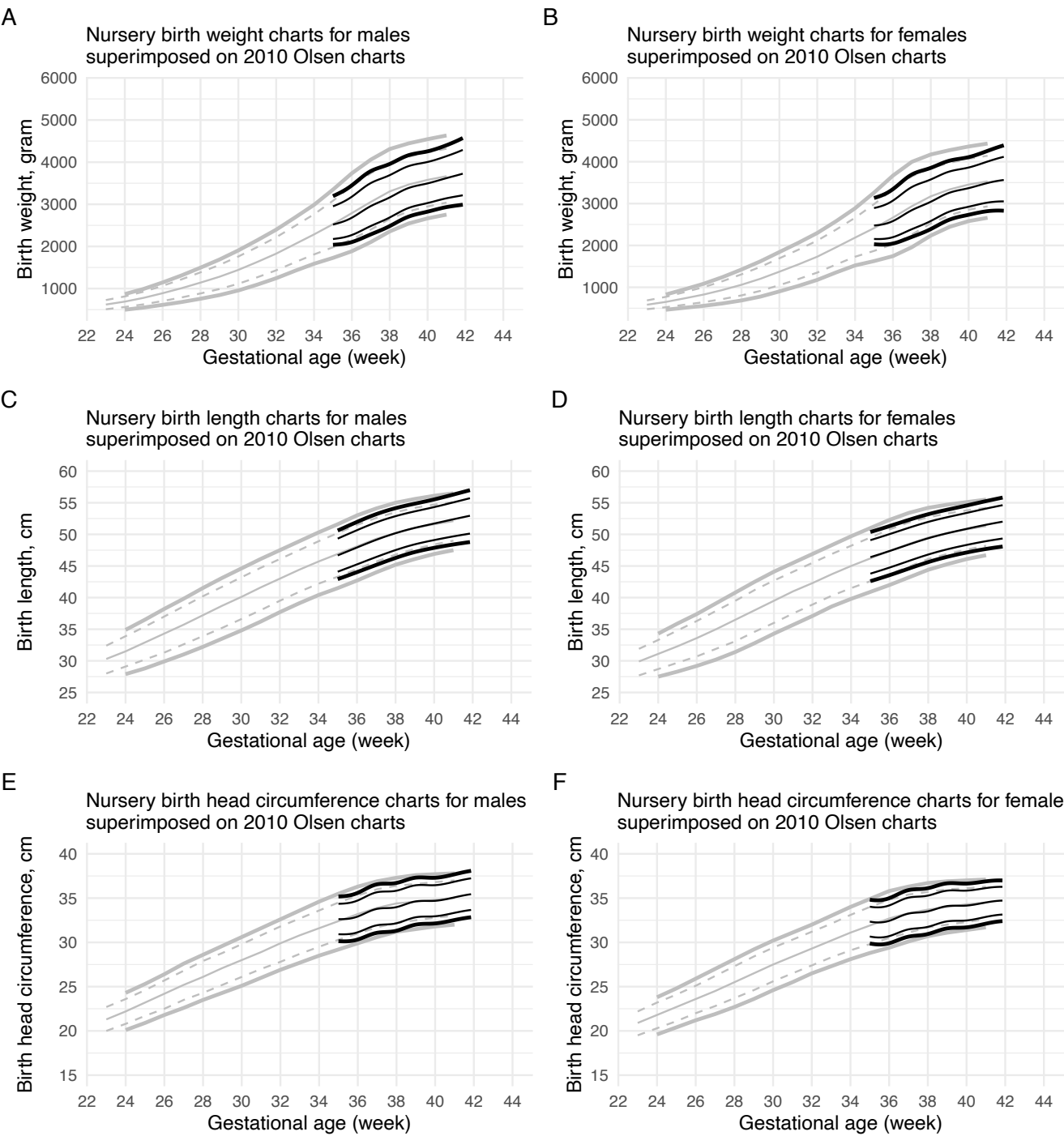
Supplemental Figure 3. Assessing overfitting bias using mean absolute error. Mean absolute error plots of weight (A,B), length (C,D), head circumference (E,F), and body mass index (G,H) models against gestational age in days for males (A,C,E,G) and females (B,D,F,H) are shown. The errors were calculated using the training (light) and the validation (dark) datasets. Refer to text for details on the construction of the training and the validation datasets.

Supplemental Figure 4. Mean z-scores by completed gestational week. The mean z-score for length (A,B), head circumference (C,D), and body mass index (E,F) along with the 99.3% confidence interval (based on the adjusted α of 0.007 per group for 7 completed gestational week groups) for males (A,C,E) and females (B,D,F) are calculated from the training dataset (triangles with grey bars) and the validation dataset (circles with black bars) using the respective percentile curves of the indicated measure type.

Supplemental Figure 5. Comparing the 2025 Chou nursery charts to the 2010 Olsen charts. The sex- and gestational age-specific birth-size reference charts (black) for weight (A for males, B for females), length (C for males, D for females), and head circumference are superimposed on the 2010 Olsen charts (grey) for comparison.

Supplemental Figure 6. Comparing the 2025 Chou nursery charts to the 2013 Fenton charts. The sex- and gestational age-specific birth-size reference charts (black) for length (A for males, B for females) and head circumference (C for males, D for females) are superimposed on the 2010 Olsen charts (grey) for comparison.

A

Nursery birth length charts for males superimposed on 2013 Fenton charts

B

Nursery birth length charts for females superimposed on 2013 Fenton charts

C

Nursery birth head circumference charts for males superimposed on 2013 Fenton charts

D

Nursery birth head circumference charts for females superimposed on 2013 Fenton charts