Supplementary Online Content

Barkin SL, Heerman WJ, Sommer EC, et al. Effect of a Behavioral Intervention for Underserved Preschool-Age Children on Change in Body Mass Index: A Randomized Clinical Trial. *JAMA.* doi:10.1001/jama.2018.9128

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Child BMI at Each Time Point

Primary outcome: Child BMI	No.	Intervention	No.	Control	Adjusted BMI difference[b] (95% CI)	P value for difference	Corrected P value for difference[c]
3 months	279	16.7 (0.9)	271	16.6 (1.0)	-0.01 (-0.12, 0.13)	0.83	0.83
9 months	280	16.7 (1.0)	280	16.7 (1.2)	-0.04 (-0.20, 0.12)	0.63	0.83
12 months	274	16.7 (1.2)	275	16.8 (1.3)	-0.05 (-0.23, 0.13)	0.62	0.83
24 months	278	17.2 (1.5)	266	17.2 (1.7)	-0.03 (-0.28, 0.22)	0.80	0.83
36 months	276	17.8 (2.2)	272	17.8 (2.1)	0.05 (-0.29, 0.38)	0.79	0.83

[a] Data are means (SD) unless otherwise indicated.
[b] BMI differences over time are estimates from the longitudinal mixed-effects regression model.
[c] P values corrected for five multiple comparisons using the Benjamini-Hochberg procedure.

eTable 2. Intervention Moderation Effects on Child BMI Trajectory

Linear and quadratic moderated intervention effects	Estimate (95% CI)[a]	P value
Baseline child age (continuous), years		
Moderated linear intervention effect (BMI difference/year)	0.105 (-0.081, 0.292)	0.27
Moderated quadratic intervention effect (BMI difference/year^2)	-0.024 (-0.076, 0.028)	0.37
Child gender (categorical), Male or Female		
Male linear intervention effect (BMI difference/year)	-0.143 (-0.379, 0.093)	0.24
Male quadratic intervention effect (BMI difference/year^2)	0.076 (0.010, 0.143)	0.02
Female linear intervention effect (BMI difference/year)	-0.025 (-0.253, 0.203)	0.83
Female quadratic intervention effect (BMI difference/year^2)	-0.009 (-0.072, 0.055)	0.79
Baseline adult BMI[b] (continuous), kg/m^2		
Moderated linear intervention effect (BMI difference/year)	-0.013 (-0.043, 0.017)	0.40
Moderated quadratic intervention effect (BMI difference/year^2)	0.001 (-0.007, 0.009)	0.81
Parent ethnicity (categorical), Hispanic or non-Hispanic		
Hispanic linear intervention effect (BMI difference/year)	-0.062 (-0.234, 0.110)	0.48
Hispanic quadratic intervention effect (BMI difference/year^2)	0.024 (-0.024, 0.073)	0.33
Non-Hispanic linear intervention effect (BMI difference/year)	-0.279 (-0.827, 0.269)	0.32
Non-Hispanic quadratic intervention effect (BMI difference/year^2)	0.106 (-0.046, 0.258)	0.17
Baseline child energy intake[c] (continuous), calories		
Moderated linear intervention effect (BMI difference/year)	-0.207 (-0.649, 0.235)	0.36
Moderated quadratic intervention effect (BMI difference/year^2)	0.163 (0.039, 0.286)	0.01
Baseline percentage child energy intake from fat[c] (continuous), %		
Moderated linear intervention effect (BMI difference/year)	-0.012 (-0.044, 0.019)	0.45
Moderated quadratic intervention effect (BMI difference/year^2)	0.004 (-0.005, 0.013)	0.40
Baseline percentage child energy intake from carbohydrates[c] (continuous), %		
Moderated linear intervention effect (BMI difference/year)	0.003 (-0.023, 0.029)	0.81
Moderated quadratic intervention effect (BMI difference/year^2)	-0.002 (-0.009, 0.005)	0.57
Baseline percentage child energy intake from protein (continuous), %		
Moderated linear intervention effect (BMI difference/year)	0.018 (-0.033, 0.068)	0.49
Moderated quadratic intervention effect (BMI difference/year^2)	-0.002 (-0.016, 0.013)	0.82
Baseline child percentage wear time sedentary[d] (continuous), %		
Moderated linear intervention effect (BMI difference/year)	-0.015 (-0.041, 0.012)	0.28
Moderated quadratic intervention effect (BMI difference/year^2)	0.003 (-0.004, 0.010)	0.45
Baseline child percentage wear time moderate/vigorous physical activity[d] (continuous), %		
Moderated linear intervention effect (BMI difference/year)	0.019 (-0.035, 0.073)	0.48
Moderated quadratic intervention effect (BMI difference/year^2)	-0.006 (-0.021, 0.009)	0.48
Baseline child BMI percentile[e] (continuous), percentile		
Moderated linear intervention effect (BMI difference/year)	-0.001 (-0.018, 0.016)	0.88
Moderated quadratic intervention effect (BMI difference/year^2)	-0.0005 (-0.0051, 0.0042)	0.85
Child birthweight[f] (continuous), kg		
Moderated linear intervention effect (BMI difference/year)	-0.167 (-0.600, 0.266)	0.45
Moderated quadratic intervention effect (BMI difference/year^2)	0.078 (-0.045, 0.201)	0.21
Baseline food security status[g] (categorical), secure, insecure without hunger, or insecure with hunger		
Secure linear intervention effect (BMI difference/year)	-0.092 (-0.308, 0.124)	0.41
Secure quadratic intervention effect (BMI difference/year^2)	0.026 (-0.034, 0.087)	0.39
Insecure without hunger linear intervention effect (BMI difference/year)	0.106 (-0.203, 0.415)	0.50
Insecure without hunger quadratic intervention effect (BMI difference/year^2)	-0.017 (-0.104, 0.069)	0.70
Insecure with hunger linear intervention effect (BMI	-0.499 (-0.954, -0.044)	0.03

difference/year)		
Insecure with hunger quadratic intervention effect (BMI difference/year^2)	0.149 (0.023, 0.275)	0.02
Community center (categorical), Center A or Center B		
Center A linear intervention effect (BMI difference/year)	-0.054 (-0.231, 0.124)	0.55
Center A quadratic intervention effect (BMI difference/year^2)	0.025 (-0.025, 0.074)	0.33
Center B linear intervention effect (BMI difference/year)	-0.240 (-0.672, 0.192)	0.28
Center B quadratic intervention effect (BMI difference/year^2)	0.069 (-0.052, 0.190)	0.26

[a] Estimates are from the longitudinal mixed-effects regression model adjusting for age at baseline, and gender, and with additional moderator interaction terms for the growth parameters. Continuous moderation is represented by interaction terms, and categorical moderation is represented by the intervention effect within each category.
[b] Required valid adult baseline BMI (e.g., not pregnant, unreliable, etc.), n=563.
[c] Required valid baseline diet recall data, n=609.
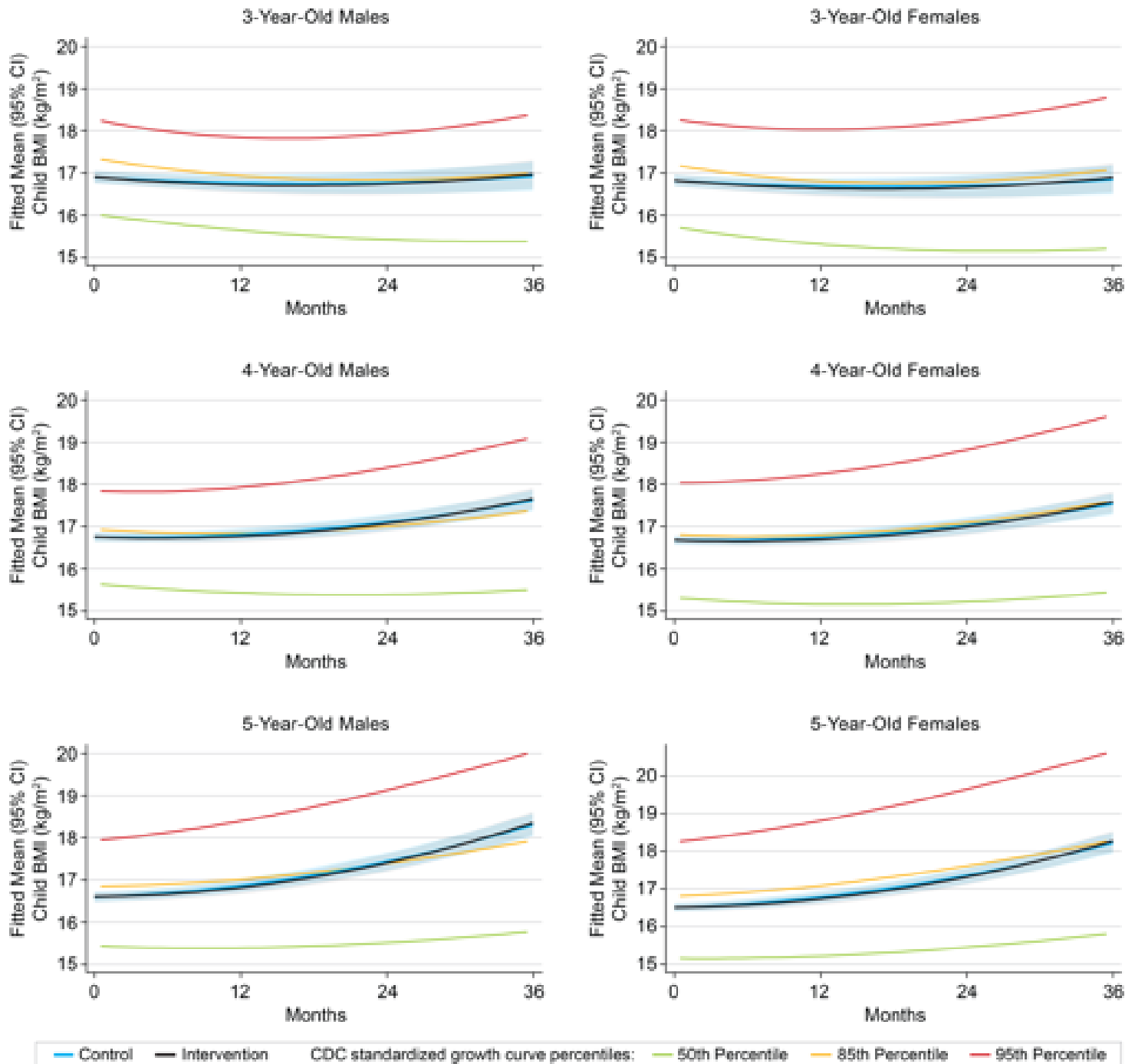[d] Required valid baseline accelerometry data, n=604.
[e] Required valid child baseline BMI percentile and at least one valid non-baseline child BMI, n=589.
[f] Required valid child birthweight, n=405.
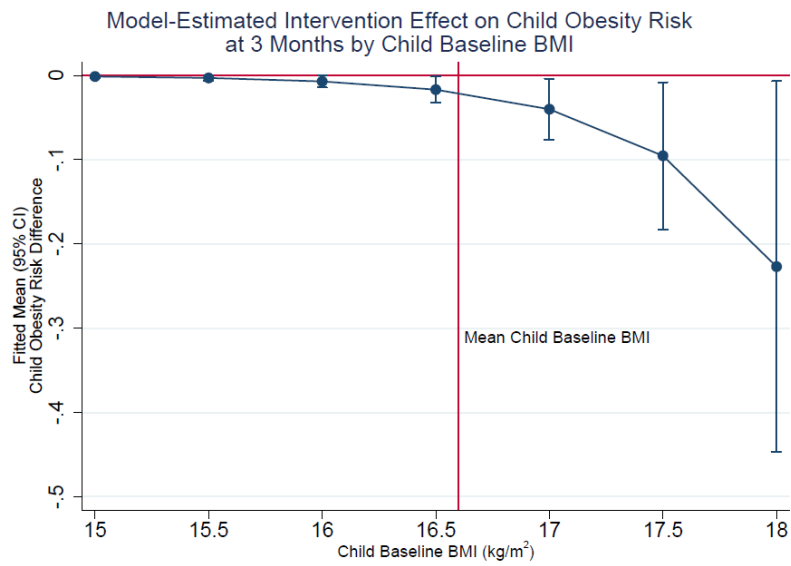[g] Required valid baseline food security status, n=606.

eFigure 1. Model-Estimated Child BMI Trajectories for Intervention and Control Groups by Baseline Age for Males and Females[a]

[a] Graphs show the longitudinal mixed-effects model-estimated child BMI trajectories for intervention and control groups, males and females, ages 3, 4 and 5 years. Shaded regions represent 95% confidence intervals around each trajectory. Reference lines represent CDC standardized growth curves for the 50th, 85th, and 95th BMI percentiles corresponding to each respective age-gender combination.

eFigure 2. Intervention Effect on Child Obesity at 3 Months [a]

[a] Vertical line represents mean baseline child BMI. The dotted line represents the estimated difference in the risk of child obesity at 3 months for children in the intervention group compared those in the control group. Capped lines represent 95% confidence intervals around this difference.

Model-Estimated Intervention Effect on Child Obesity Risk at 3 Months by Child Baseline BMI

eFigure 3. Model-Estimated Child BMI Trajectories for Intervention and Control Groups Moderated by Baseline Food Security Status