Table S1. Psychometric properties and item loadings of the original nine-item External Food Cue Responsiveness scale (EFCR) in preadolescents (N=185).

EFCR score (mean ± SD)	1.87 ± 0.48
Fit measure	
Chi-squared test statistics (degree of freedom)	402.5 (36)
P-value from Chi-squared test	<0.01
CFI	0.81
TLI	0.74
RMSEA	0.12
SRMR	0.08
Internal consistency	
Cronbach's α	0.78
McDonald's ω	0.78
Item	**Standardized loadings**
Q1. My child wants snacks at check-out aisles.	0.50
Q2. My child likes certain snacks because of the packaging.	0.48
Q3. My child points out snack or drink vending machines.	0.54
Q4. My child asks for foods or drinks that other kids eat.	0.27
Q5. My child gets excited by the sound of food cooking.	0.37
Q6. My child wants to eat if he/she hears a snack being opened.	0.46
Q7. My child wants to eat when people talk about food.	0.44
Q8. My child gets excited when he/she sees restaurant logos.	0.46
Q9. My child expects a snack when in the car.	0.31
One-year test-retest reliability (ICC, N = 96)	0.76

Note: CFI, comparative fit index. TLI, Tucker-Lewis index. RMSEA, root mean square error of approximation. SRMR, standardized root mean square residual. ICC, intraclass correlation derived from a two-way consistency model. This table presents fit measures and item loadings from a confirmatory factor analysis on the one-factor structure of the original External Food Cue Responsiveness scale (9 items, range 1 to 4).

Table S2. Internal consistency of questionnaires.

Instrument	Subscale	Number of Items	N	Cronbach's α	McDonald's ω
EFCR	Overall	9	185	0.78	0.78
EFCR-6	Overall	6	185	0.73	0.73
EFCR-6	Auditory food cue responsiveness	3	185	0.70	0.70
EFCR-6	Visual food cue responsiveness	3	185	0.74	0.74
CEBQ	Food responsiveness	5	185	0.83	0.84
CEBQ	Emotional overeating	4	185	0.82	0.83
CEBQ	Enjoyment of food	4	185	0.82	0.83
I^6	Overall	23	184	0.81	0.81
CHAOS	Overall	15	184	0.87	0.87
CFPQ	Restriction for weight control	8	185	0.82	0.83
CFPQ	Using food as a reward	2	185	0.81	0.81
API	Demanding parenting	4	185	0.52	0.53
API	Responsive parenting	5	185	0.75	0.75

Notes: EFCR, the original External Food Cue Responsiveness Scale. EFCR-6, the six-item External Food Cue Responsiveness scale. CEBQ, Child Eating Behavior Questionnaire. I^6, Eysenck's Impulsiveness Questionnaire. CHAOS, Confusion, Hubbub, and Order Scale. CFPQ, Comprehensive Feeding Practices Questionnaire. API, Authoritative Parenting Index.

Table S3. Exploratory factor analysis on the two-factor solution (N = 185).

Item	Standardized loadings	
	Factor 1	*Factor 2*
Q1. My child wants snacks at check-out aisles.	0.849*	
Q2. My child likes certain snacks because of the packaging.	0.634*	0.137[a]
Q3. My child points out snack or drink vending machines.	0.579*	
Q4. My child asks for foods or drinks that other kids eat.	0.317*[a]	0.101[a]
Q5. My child gets excited by the sound of food cooking.	-0.138*[a]	0.697*
Q6. My child wants to eat if he/she hears a snack being opened.		0.675*
Q7. My child wants to eat when people talk about food.		0.613*
Q8. My child gets excited when he/she sees restaurant logos.	0.198*[a]	0.551*[b]
Q9. My child expects a snack when in the car.	0.125[a]	0.302*[a]

Note: * $p < 0.01$.
[a]Items with loadings < 0.4 were removed from the factor.
[b]Q8 is a visual cue-related item and was removed from factor 2, as this domain primarily reflects responsiveness to sound-related food cues.
This table presents the standardized item loadings from an exploratory factor analysis with oblique rotation.

Table S4. The distribution of the six-item External Food Cue Responsiveness scale scores by demographics**.**

	Mean ± SD or N (%)	**EFCR-6 score, Mean ± SD**	***P*-value**
Child age (years)	1.9 ± 1.2		0.10
Child sex (N=184)			0.96
Male	107 (58%)	1.90 ± 0.54	
Female	77 (42%)	1.90 ± 0.55	
Child race/ethnicity			0.47
White, non-Hispanic	167 (91%)	1.91 ± 0.54	
Others	18 (10%)	1.81 ± 0.50	
Child weight status			0.12
Underweight	2 (1%)	2.08 ± 1.30	
Healthy weight	126 (68%)	1.86 ± 0.50	
Overweight	27 (15%)	1.94 ± 0.68	
Obesity	30 (16%)	2.01 ± 0.54	
Household annual income ($)			0.65
<65,000	24 (13%)	1.78 ± 0.48	
65,000-145,000	99 (56%)	1.91 ± 0.51	
145,000-225,000	44 (24%)	1.98 ± 0.69	
Over 225,000	18 (10%)	1.78 ± 0.28	
Parental education			0.97
Without a bachelor's degree	30 (16%)	1.83 ± 0.42	
Bachelor's degree	51 (28%)	1.9 ± 0.57	
Professional school or graduate school	104 (56%)	1.92 ± 0.56	
Parenting style			0.01
Authoritative	50 (27%)	1.78 ± 0.53	
Authoritarian	21 (11%)	1.91 ± 0.54	
Permissive	41 (22%)	1.77 ± 0.48	
Neglectful	73 (39%)	2.05 ± 0.55	

Note: Child sex was not reported for one participant. Media use had one missing value and was imputed with the sample mean. Anthropometry was missing for one participant and was imputed with the sample mean. Household income had eight missing values and was imputed with the mode. Parental education had one missing value and was imputed with the mode (professional or graduate school). Parenting style was assessed via the Authoritative Parenting Index, a child-report instrument with two subscales: demandingness and responsiveness. We computed the *p*-values from Spearman's correlational test for continuous variables, the Wilcoxon rank sum test with continuity correction for categorical variables with two groups, and the Kruskal-Wallis test for categorical variables with more than two groups.

Table S5. Standardized loadings of the six-item External Food Cue Responsiveness scale (EFCR-6) by child sex.

	Overall (N=185)	Males (N=107)	Females (N=77)
Factor 1: visual food cue responsiveness			
My child wants snacks at check-out aisles.	0.66	0.65	0.66
My child likes certain snacks because of the packaging.	0.56	0.57	0.57
My child points out snack or drink vending machines.	0.58	0.62	0.55
Factor 2: auditory food cue responsiveness			
My child gets excited by the sound of food cooking.	0.49	0.47	0.53
My child wants to eat if he/she hears a snack being opened.	0.62	0.56	0.71
My child wants to eat when people talk about food.	0.43	0.44	0.43
Correlation between factors 1 and 2	0.47	0.46	0.52

Note: Item responses are anchored on a four-point Likert scale: rarely (1), sometimes (2), often (3) or a lot (4). The final score is the average score across seven items, ranging from 1 to 4. Higher scores indicate more responsiveness to external food cues.

Table S6. Distribution of participant demographics between the baseline and test-retest sample.

	Full Sample (N = 185)	**Test-Retest Sample (N = 96)**	
	Mean ± SD or N (%)		*p*
Child age (years)	10.90 ± 1.19	10.90 ± 1.21	0.97
Child sex (N = 184)			0.61
Male	107 (58%)	59 (61%)	
Female	77 (42%)	36 (38%)	
Child race/ethnicity			0.28
White, non-Hispanic	167 (90%)	91 (95%)	
Others	18 (10%)	5 (5%)	
Child BMI-z (N = 184)	0.48 ± 1.00	0.44 ± 1.02	0.73
With overweight	27 (14%)	13 (14%)	
With obesity	30 (16%)	16 (17%)	
Child media use (hours per day)	2.59 ± 1.72	2.59 ± 1.79	0.99
<1	31 (17%)	16 (17%)	
≥1 and <2	44 (24%)	24 (25%)	
≥ 2 and <3	46 (25%)	24 (25%)	
≥ 3 and <4	40 (22%)	18 (19%)	
4 and above	24 (13%)	14 (15%)	
Household annual income ($)			0.76
<65,000	24 (13%)	9 (9%)	
65,000-145,000	99 (54%)	51 (53%)	
145,000-225,000	44 (24%)	24 (25%)	
Over 225,000	18 (9%)	12 (13%)	
Parental education			0.59
Without a bachelor's degree	30 (16%)	14 (15%)	
Bachelor's degree	51 (28%)	22 (23%)	
Professional or graduate school	104 (56%)	60 (63%)	

Note: SD, standard deviation. BMI-z, age- and sex-adjusted body mass index z-score based on the 2000 CDC growth charts. Child sex was not reported for one participant. Media use was missing for one participant and was imputed with the sample mean. Anthropometry was missing for one participant and was imputed with the sample mean. Household income had eight missing values and was imputed with the mode (i.e., $145,000-225,000). Parental education had one missing value and was imputed with the sample mode (i.e., professional or graduate school). *P*-values were derived from Welch's two-sample t-tests and Pearson's Chi-squared tests.

Table S7. One-year test-retest reliability of the External Food Cue Responsiveness scale (N = 96).

	EFCR-6, Mean (SD)				
	Baseline	**One-Year Follow-Up**	**ICC**	**95% CI**	***p***
EFCR-6	1.90 (0.53)	1.88 (0.65)	0.74	0.61, 0.83	< 0.00001
EFCR-visual	1.92 (0.70)	1.90 (0.82)	0.69	0.53, 0.79	< 0.00001
EFCR-auditory	1.88 (0.59)	1.86 (0.65)	0.79	0.69, 0.86	< 0.00001
EFCR original	1.87 (0.48)	1.87 (0.57)	0.76	0.64, 0.84	< 0.00001

Note: ICC, average score intraclass correlation computed via a two-way consistency model. EFCR-6, the six-item External Food Cue Responsiveness scale (range: 1 to 4). EFCR-visual, visual food cue responsiveness subscale (3 items). EFCR-auditory, auditory food cue responsiveness subscale (3 items). EFCR, the original External Food Cue Responsiveness scale (9 items, score range: 1 to 4).

Table S8. Association between obesity-related genetic risk scores and external food cue responsiveness, adjusting for child ancestry (N = 178).

Dependent Variable	Independent Variable: The 97 SNP PRS				Independent Variable: The 265 SNP Pediatric-Specific PRS				Independent Variable: The ~ 2 million SNP PRS			
	Unadjusted		Adjusted		Unadjusted		Adjusted		Unadjusted		Adjusted	
	β_{std}	*95% CI*	β_{std}	*95% CI*	β_{std}	*95% CI*	β_{std}	*95% CI*	β_{std}	*95% CI*	β_{std}	*95% CI*
EFCR-6	-0.04	-0.18, 0.11	-0.03	-0.18, 0.12	0.10	-0.05, 0.25	0.10	-0.05, 0.25	0.03	-0.12, 0.18	0.01	-0.15, 0.17
EFCR-visual	-0.07	-0.21, 0.08	-0.07	-0.22, 0.08	-0.03	-0.18, 0.12	-0.03	-0.18, 0.12	-0.04	-0.19, 0.11	-0.04	-0.20, 0.12
EFCR-auditory	0.01	-0.14, 0.16	0.02	-0.13, 0.17	0.21	0.07, 0.36	0.21	0.07, 0.36	0.09	-0.05, 0.24	0.07	-0.09, 0.22

Note: EFCR-6: the six-item External Food Cue Responsiveness scale. EFCR-visual, visual food cue responsiveness subscale. EFCR-auditory, auditory food cue responsiveness subscale. SNP: single nucleotide polymorphisms. PRS: polygenic risk score. CI: confidence interval. This table presents the standardized beta coefficients and 95% confidence intervals from linear regressions with each obesity genetic risk scores as the independent variable and EFCR-6 scores or subscale scores as the dependent variable, adjusting for European ancestry. European ancestry was determined by genetic data.

Table S9. Adjusted associations between the six-item External Food Cue Responsiveness scale (EFCR-6) subscale scores and correlates of EFCR in pre-adolescents (N=185).

	Dependent Variable																			
	Trait impulsiveness		Child media use		Instrumental feeding		Restrictive feeding		Demanding parenting		Responsive parenting		Household chaos		The 97 SNP PRS		The ~2 million SNP PRS		The 266 SNP pediatric-specific PRS	
	β_s	p	β_s	p	β_s	p	β_s	p	β_s	p	β_s	p	β_s	p	β_s	p	β_s	p	β_s	p
EFCR-visual	.28	<.001	.25	<.001	.18	.02	.32	<.001	-.15	.06	-.19	.01	.07	.36	-.08	.33	-.08	.32	-.12	.13
EFCR-auditory	-.13	.09	-.04	.62	-.01	.94	.17	.02	-.02	.80	.03	.73	.22	.01	.04	.63	.12	.13	.26	< .001

Note: EFCR-6: the six-item External Food Cue Responsiveness scale. EFCR-visual, visual food cue responsiveness subscale. EFCR-auditory, auditory food cue responsiveness subscale. SNP: single nucleotide polymorphisms. PRS: polygenic risk scores (N = 178). This table presents the standardized beta coefficients from linear regression with each correlate of EFCR as the dependent variable and the EFCR-6 subscales as the independent variables. Trait impulsiveness was assessed via Eysenck's Impulsivity Inventory (N = 184). Child media use was collected via parental reports (N = 184). Feeding practices were assessed via the Comprehensive Feeding Practices Questionnaire. Parenting style was evaluated via the Authoritative Parenting Index. Household chaos was assessed via the Confusion, Hubbub, and Order Scale (CHAOS, N = 184).