

INTRODUCTION

Throughout the world, childhood obesity is a public health concern that poses serious threats to children's mental health, and it is being found at ever younger ages: 43 million children aged 5 years and younger are overweight and obese, while 92 million more are at risk of becoming overweight.

Objective: To investigate cross-sectional associations between weight status and emotional and behavioral problems among Spanish children aged 3 to 5.

METHODS

Participants

Community sample. N=622 children

Follow-up yearly: ages 3, 4, 5.

Descriptives (age 3)	Non-overw. (N= 558)	Overw. (N= 53)
Gender (male)	278 (49.8%)	27 (50.9%)
Ethnicity White	505 (90.5%)	40 (75.5%)
Other	43 (9.5%)	13 (26.6%)
SES High	194 (34.8%)	9 (17.0%)
Mean-High	178 (31.9%)	14 (26.4%)
Mean	77 (13.8%)	9 (17.0%)
Mean-Low	81 (14.5%)	15 (28.3%)
Low	28 (5.0%)	6 (11.3%)

Measures

- The Strengths and Difficulties Questionnaire
- Diagnostic Interview for Children and Adolescents for Parents of Preschool and Young Children
- Weight-height: taken by nurses at outpatient pediatric units

Statistical analysis

- Weight status defined according to the World Health Organization: z-BMI scores and Overweight
- General Linear Models and binary logistic regressions into SPSS20 system
- Covariate: Socioeconomic Status

RESULTS

Overweight with SDQ and DSM-IV disorders	Age 3			Age 4			Age 5		
	Overweight NO n=558	YES n=53	MD	Overweight NO n=541	YES n=55	MD	Overweight NO n=508	YES n=56	MD
SDQ scores									
Emotion; mean	1.44	2.06	-0.46	0.93	1.44	-0.54	1.01	1.07	-0.02
Conduct; mean	2.57	3.44	-0.64	1.84	1.87	-0.04	1.42	1.53	-0.05
ADHD; mean	3.87	4.62	-0.35	2.98	3.72	-0.57	3.10	3.21	0.07
Peer; mean	1.30	1.69	-0.18	0.85	1.38	-0.51	0.79	1.38	-0.50*
Pro-social; mean	2.12	2.02	0.01	1.67	2.03	-0.44	1.60	1.62	-0.05
Total; mean	9.18	11.74	-1.54	6.59	8.40	-1.67	6.32	7.20	-0.50
DSM-IV disorders									
	OR			OR			OR		
Disruptives; %	9.4	20.6	1.92	8.3	17.3	1.79	9.6	7.4	0.66
ADHD; %	3.3	8.3	1.67	4.4	13.6	2.68*	4.3	3.7	0.58
ODD; %	6.3	16.5	2.40*	5.1	6.2	0.89	6.5	4.9	0.73
Conduct; %	1.3	2.8	1.58	0.1	1.2	7.16	0.6	0.0	---
Anx. disorders; %	6.4	19.2	3.03*	7.1	7.5	0.85	10.7	20.8	2.03
Separation dis.; %	1.9	5.5	1.79	1.2	3.7	2.01	1.4	0.0	---
Specific phobia; %	2.9	8.3	2.85	5.0	5.0	0.80	7.4	15.9	2.06
Social phobia; %	1.9	1.4	0.57	2.2	0.0	---	3.9	1.2	0.33

z-BMI scores related with SDQ and DSM-IV diagnoses	Age 3 (n=611) B	Age 4 (n=596) B	Age 5 (n=564) B
SDQ scores			
Emotion	0.011	0.067	0.026
Conduct	0.092*	0.036	-0.012
ADHD	0.049	0.151*	0.088
Peer	-0.037	0.068	0.067
Pro-social	-0.113*	0.023	0.007
Total	0.109	0.322*	0.169
DSM-IV diagnoses			
	OR	OR	OR
Disruptives	1.06	1.04	1.00
ADHD	0.95	1.17*	0.95
ODD	1.12	1.01	1.01
Conduct	1.11	1.23*	1.13
Anx. disorders	1.06	1.05	1.01
Separation dis.	1.04	1.20	0.81
Specific phobia	1.14	1.06	1.11
Social phobia	0.91	0.92	0.81

Overweight:

- Age 3: ODD and anxiety
- Age 4: ADHD
- Age 5: peer relationship problems.

Higher BMI z-score:

- Age 3: conduct problems and lower pro-social behavior
- Age 4: ADHD, total problems scale and conduct disorder.

CONCLUSION

A higher BMI and overweight are associated with a broad range of psychological problems at very young ages. There is a need for screening for psychological problems in very young children who are overweight.

