



Maternal Parenting Styles Related to Children Body Composition in Mother-Child Dyads in Northeastern Mexico

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Background

Childhood obesity (OB) is one of the worst public health problems in the 21st century (World Health Organization [WHO], 2011). The child's early experiences with foods and styles mothers use at home are fundamental in the establishment of the habits the children develop (Sleddens et al. 2011).

Parenting styles are based on the balance between parental responsibility and demands. Parenting styles associated with OB-related behaviors (**PEA**) in Latino families are monitoring, discipline, control, setting limits, and reinforcement.

- Monitoring** as the extent to which parents supervise their children's healthy behaviors.
- Discipline** as how frequently parents sanction their children for unhealthy eating behaviors, like drinking soft drinks and engaging in sedentary behaviors without their parents' authorization, like watching television.
- Control** as the parents' ability or power to have their children do what they want, like making the children eat everything on the plate even if they are not hungry.
- Setting limits** refers to the extent to which the mother permits the children's unhealthy eating and sedentary behaviors and
- Reinforcement** refers to praising the children in case of healthy conducts, like eating a healthy snack or practicing physical activity.

Objectives

- Determine the contribution of the PEA to the child's body mass index (BMI) and percentage body fat (PBF)
- Check whether the PEA differs according to the child's weight category.

Methods

Design

Transversal study.

Participants

558 dyads (mother-child of pre-school and school age).

Children attended four public education institutions *in*

Monterrey, Nuevo Leon, Mexico.

(2 at pre-school and 2 at school level)

Measures

Mothers

Answered parenting styles related to children's eating and physical activity scale (PEAS) in Spanish (Larios et al. 2006).

Children

Weight and height were measured

Percentage Body Fat by bioelectrical impedance.

Statistical Analysis

Multiple linear regression

Kruskal-Wallis

Mann-Whitney test

References

- Larios, S. E et al. (2009) Development and validation of a scale to measure Latino parenting strategies related to children's obesogenic behaviors. The parenting strategies for eating and activity scale (PEAS). *Appetite*, 52(1), pp. 166-172.
- Sleddens, E. F et al (2011). General parenting, childhood overweight and obesity-inducing behaviors: a review. *International Journal of Pediatric Obesity*, 6(2-2), pp. e12-e27

Results

Mothers

- Mean maternal age = 34.37 years ($SD = 6.90$)

- Mean education 12.52 years ($SD = 3.28$).

Children

- 50.54% ($n = 282$) were female and 49.46 ($n = 276$) male
- 3.05% ($n_1 = 17$) were thinness, 59.32% ($n_2 = 331$) normal, -
- 16.30% ($n_3 = 91$) overweight, 21.33% ($n_4 = 119$) obesity

Coefficient alpha of the PEAS was .84

The highest coefficient was for the monitoring subscale ($\alpha = .78$) and the lowest on the reinforcement subscale ($\alpha = .41$).

Contribution of PEA to the child's BMI and BFP

Contribution of PEA to the BMI

($F = 25.44$, $df = 3$, $p = .001$), explained variance of 12%.

Contributed to the model: limit setting, control and discipline

Contribution of PEA to the BFP

($F = 19.86$, $df = 2$, $p = .001$) explained variance of 6%

Contributed to the model: Control and discipline

PEA according to the child's weight category

Mann-Whitney's U-test of control subscale according to the child's weight category

Weight category	n	Mean range	Sum of ranges	U	p
Thinness	17	124.21	2111.50	1958.50	.003
Normal	331	177.08	58614.50		
Thinness	17	37.44	636.50	483.50	.001
OW	91	57.69	5249.50		
Thinness	17	31.99	543.50	390.50	.001
OB	119	73.72	8772.50		
Normal	331	204.91	67825.50	12879.50	.001
OB	119	282.77	33649.50		
OW	91	91.25	8304.00	4118.00	.003
OB	119	116.39	13851.00		

Control differs among the weight categories, with higher control levels for children with OW and OB when compared to normal and underweight children.

MannWhitney's U-test of the reinforcement subscale according to the child's weight category

Weight category	n	Mean range	Sum of ranges	U	p
Thinness	17	219.06	3724.00	2056.00	.058
Normal	331	172.21	57002.00		
Thinness	17	66.41	1129.00	571.00	.084
OW	91	52.27	4757.00		
Thinness	17	90.82	1544.00	632.00	.012
OB	119	65.31	7772.00		
Normal	331	211.46	69992.50	15046.50	.989
OW	91	211.65	19260.50		
Normal	331	231.45	76610.50	17724.50	.101
OB	119	208.95	24864.50		
OW	91	111.64	10159.00	4856.00	.195
OB	119	100.81	11996.00		

Reinforcement is higher in underweight children when compared to obese children.

Conclusions

Use of control style influences unhealthy eating behaviors, leading to a rise in the child's BMI.

The mothers are more controlling, that is, they exert more pressure to eat on obese children, but are more appreciative (congratulate the child for eating a healthy snack or being physically active) when the child is underweight or normal weight.

Further research on the PEAS is recommended in Mexican mothers, as well as the identification of possible predictors.