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## Weight status and psychological health among children in Tehran

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Childhood obesity is a growing health problem in Iran<sup>(1)</sup>; however, few studies have attempted to identify the wider health effects of obesity in young children<sup>(2)</sup>. Obesity in children is likely to be associated with psychological consequences including diminished quality of life, decreased self-esteem, and being subjected to teasing and discrimination<sup>(3,4)</sup>. The aim of this study is to examine the relationship between weight status and psychological health of school-aged children in Tehran, Iran.

Height and weight of a total of 319 children (153 boys, 7.5±0.6 years old) selected from three different socio-economic regions in Tehran were measured. Overweight was defined as BMI Z-Score > +1 SD (WHO data)<sup>(5)</sup>. Parents' educational level was recorded and classified into four groups. Mother's working status (working, housewife) was reported. Three questionnaires including Self-description (Marsh), perceived physical competence (Harter) and the Paediatric Quality of Life (PedsQL) – Persian version – were used to evaluate children's psychological well-being. The PedsQL consists of four domains including physical, emotional, social and educational dimensions. Both total (all four domains) and a psychological score (summary score of the last three domains) were calculated.

Overall 28.2% (95% CI 23.3–33.1) of children were classified as overweight. There was a wide range in psychological score measures, which were generally higher (better psychological health) in boys compared with girls. The psychological measures did not differ significantly by weight status, and were not related to parental educational level. The children from the higher socio-economic residential area achieved lower scores for all questionnaires (Table). The difference for PedsQL (total and psychological) remained significant after adjustment for age, sex, mother's working status and weight status (OR 0.2,  $P < 0.001$ ).

	Affluent		Middle		Deprived		Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Marsh	100.6*	11.3	104.5*	9.5	102.0	11.3	102.5	10.8
Harter	19.2	3.0	19.8	3.3	19.9	3.2	19.7	3.2
PedsQL	74.4**	12.0	77.8 <sup>Y</sup>	13.3	81.3** <sup>Y</sup>	12.2	78.0	12.8
PedsQL (psychological)	73.1**	14.7	76.3 <sup>Y</sup>	15.7	81.1** <sup>Y</sup>	14.1	77.0	15.2

\* $P = 0.04$ , \*\* $P < 0.001$ , <sup>Y</sup> $P = 0.09$ , <sup>YY</sup> $P = 0.05$ .

In comparison with the other residential areas, the more deprived area was very traditional with few immigrants. The findings may suggest that living a more traditional lifestyle may provide children with higher level of emotional, educational and psychological confidence. On the other hand, it might suggest that children from affluent areas are more susceptible to the consequences of modernisation, which needs further investigation.

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