

Body image perception changes in obese and lean children

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Background

Body image (BI) is subjective picture of one's own physical appearance established both by self-observation and by noting the reactions of others [1]. Different BI scales used for screening of the Binge Eating symptoms that strongly linked to obesity [2, 3].

Objectives

We supposed to get differences in the own body image perception in overweight and lean children [4].

Methods

Body Image questionnaire (BIQ) and Own body satisfaction scale (OBSS) were answered by 47 children with simple obesity (BMI SDS>2.0) (1st group) (f/m=20/27) and 30 children with normal weight (BMI SDS<1.0) (2nd group) (f/m=16/14). Children BMI were standardized according to national reference data. BIQ, OBSS, head, trunk and lower body satisfactions cores (HSS, TSS and LBSS) were used for estimate the BI construct. Statistical analysis were performed by means of SPSS 21.0 ($P<0.05$). Nonparametric analysis was performed (SPSS 16.0, $p<0.05$).

Results

Girls were 15.2 (13.3–16.1) and 15.5 (15.0–16.9) years old in the 1st and 2nd groups, boys – 14.8 (13.0–16.1) and 16.1 (14.7–17.1) accordingly ($P>0.05$). BMI, waist circumference (WC) were higher in the 1st group irrespective of gender ($P=0.0001$). (tab. 1).

Results

The most negative BI perception was in obese girls (22 points (16–25)) compare to lean ones (eight points (3.5–12.8)), $P=0.0001$, according to BIQ scale (fig 1a). Obese girls had disturbed whole body perception ($P=0.002$), trunk ($P=0.003$) (fig 1b) and lower body satisfactions ($P=0.002$) (fig 1c) according to OBSS, TSS and LBSS. These patterns of relationships were similar in obese boys with accent on changed trunk image perception. ($p<0.05$) (fig. 1 a,b,c).

Correlations between BMI, BMI SDS and BIQ scores were stronger in girls ($r=0.6$ and $r=0.6$, $P=0.0001$) (fig 2) than in boys ($r=0.4$, $P=0.02$ and $r=0.4$, $P=0.03$) (fig 3). BMI and BMI SDS positively correlated with OBSS, TSS and LBSS scores ($r=0.5$, $r=0.5$, $P=0.004$, $r=0.5$, $P=0.003$ and $r=0.5$, $r=0.5$, $r=0.5$, $P=0.01$) in obese girls.

Overweight boys had less strong correlations in the same parameters ($r=0.4$, $P<0.05$).

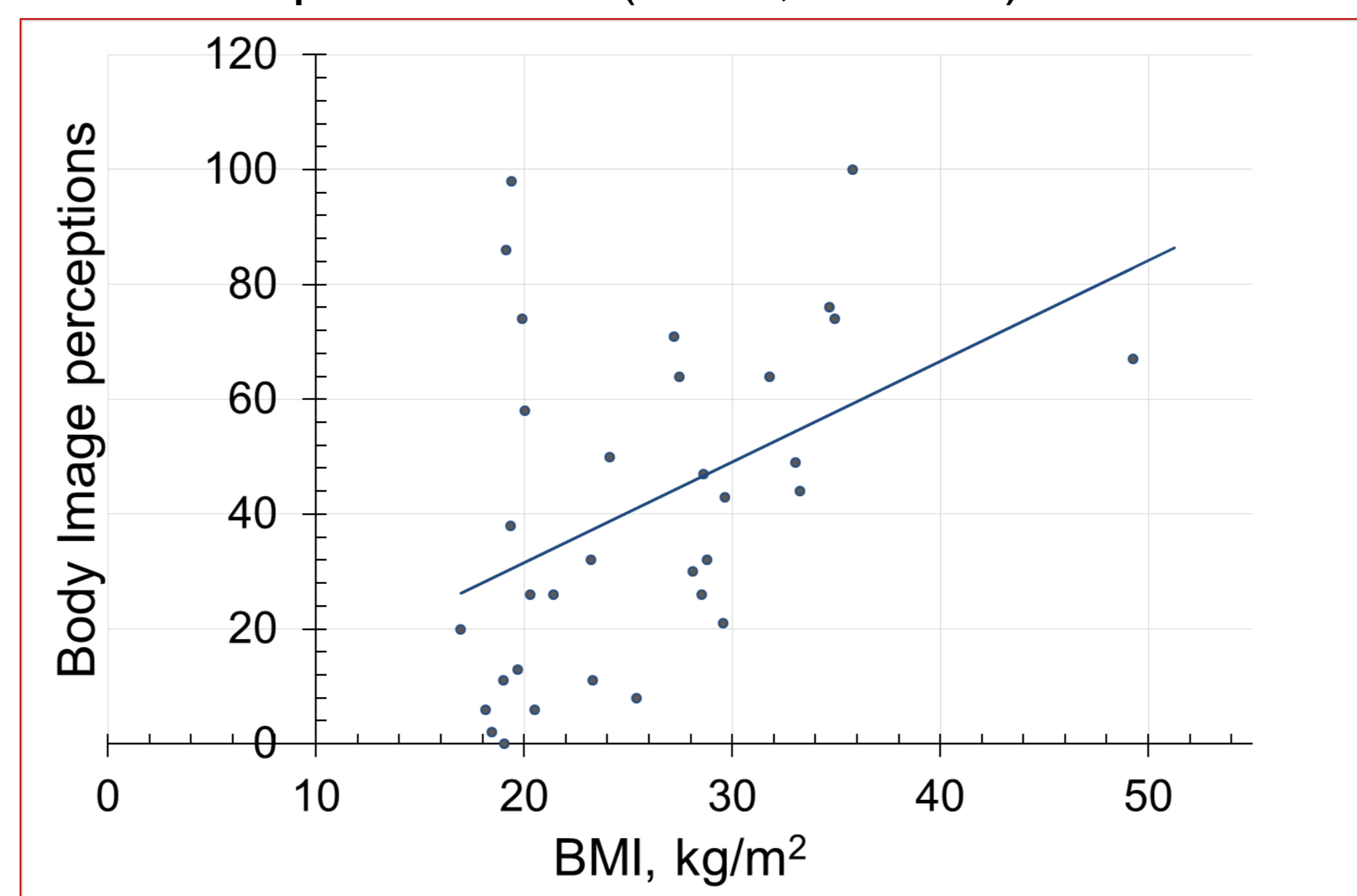


Figure 2. Correlations between BMI and Body Images perceptions in girls

Results

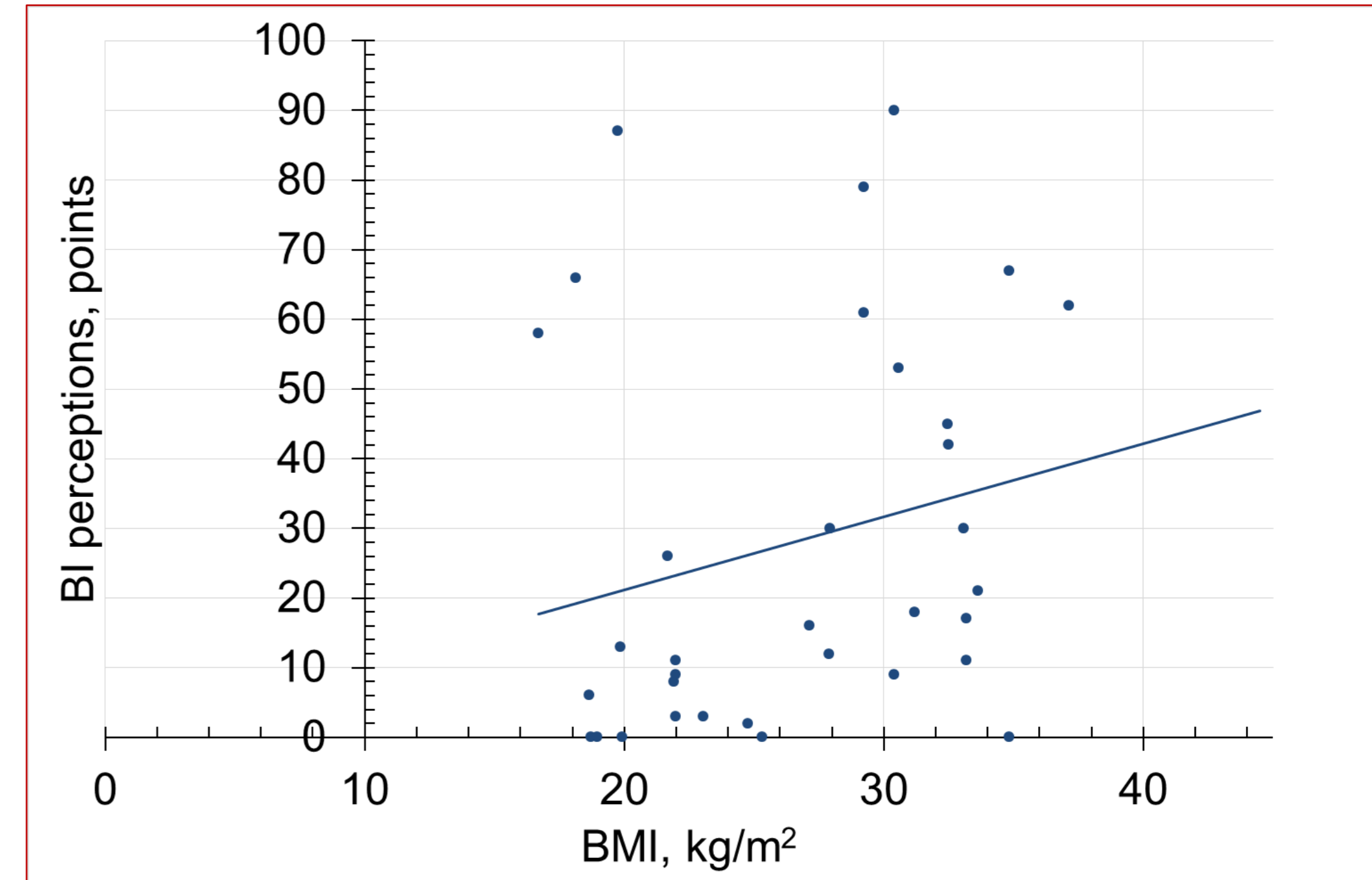


Figure 3. Correlations between BMI and Body Images perceptions in boys

Girls had positive correlations between WC, OBSS (fig 4), TSS and LBSS scores ($r=0.5$, $P=0.01$, $r=0.5$, $P=0.004$ and $r=0.5$, $P=0.01$) as opposed to boys ($P>0.05$).

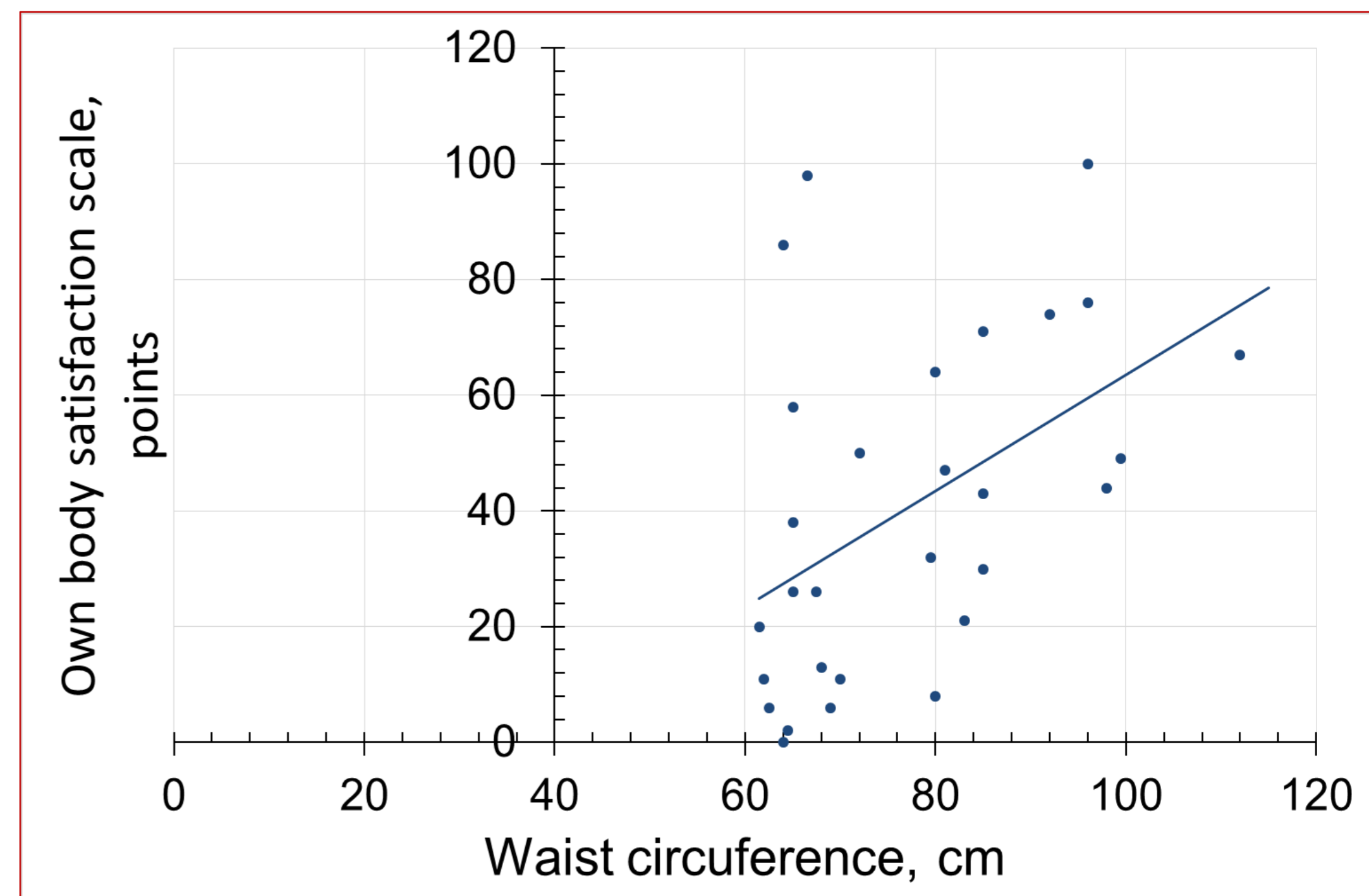


Figure 4. Correlation between waist circumference and own body satisfaction scale in girls

Conclusions

Negative perception of body image with dissatisfaction of whole body, trunk and lower body part increase in line with BMI and waist circumference raise. Body image perception depends on gender and more negative in girls compare to boys.

References

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4. Gualdi-Russo E., Manzon V.S., Masotti S., et al. Weight status and perception of body image in children: the effect of maternal immigrant status. *Nutrition Journal* 2012, 11:85

<http://www.nutritionj.com/content/11/1/85>

Characteristics	Obese Children (the 1 st group)		Lean children (the 2 nd group)		P _{m 1-2}	P _{f 1-2}	P _{1 m-f}	P _{2 m-f}
	males	females	males	Females				
n=77	27	20	14	16				
BMI kg/m ²	31.2 (27.9 – 33.2)	29.6 (28.2 – 34.3)	19.9 (18.7 – 21.9)	19.5 (19.0 – 21.2)	0.0001	0.0001	>0.05	>0.05
BMI SDS	5.5 (3.6 – 6.4)	4.0 (2.9 – 4.8)	0.08 (-0.5 – 0.6)	-0.5 (-0.8 – 0.08)	0.0001	0.0001	0.02	>0.05
Age, years	14.8 (13.0–16.1)	15.2 (13.3–16.1)	16.1 (14.7–17.1)	15.2 (13.3–16.1)	>0.05	>0.05	>0.05	>0.05
Waist circumference, cm	94.0 (88.0 – 98.8)	85.0 (81.0 – 98.0)	71.5 (67.8 – 71.2)	65.0 (64.0 – 68.0)	0.0001	0.0001	>0.05	0.001

Table 1. Clinical characteristics in obese and lean children according to gender

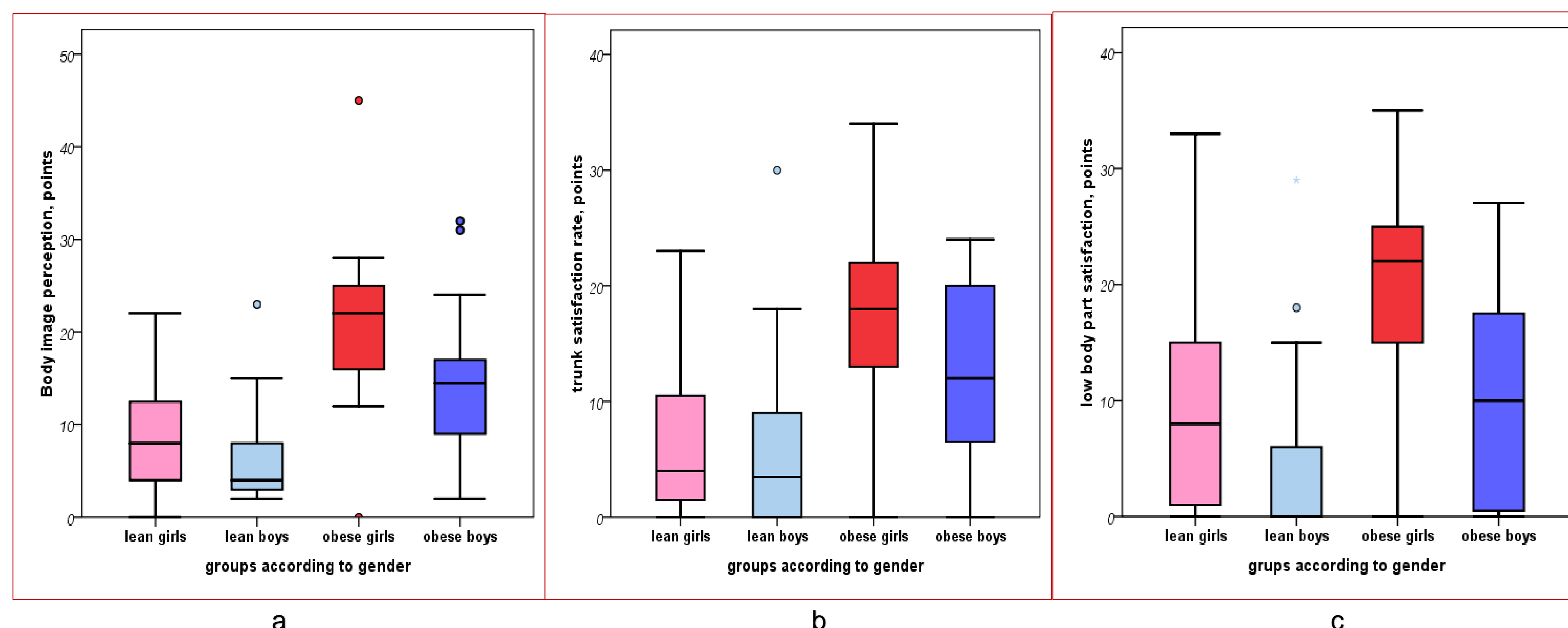


Figure 1. Body image perception (a), trunk (b) and low body part satisfaction (c) depends on BMI and gender.

