Overweight children tend to underreport their weight

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Background:

The prevalence and severity of obesity have increased among children and adolescents. However most of the studies exploring this topic used self-report measures which might be exposed to possible bias. Therefore the aim of this study was to compare objective and self-rated weight measures and to explore possible predictors of bias due to self-report bias.

Methods:

Cross-sectional data from the Health Behaviour in School-aged Children study in Slovakia, 2010 were used. Out of 8050 respondents in age 11 to 15 years, 493 were selected for anthropometric measures and 434 with complete data were included into the study (44.7% females). Linear regression model was used to explore the associations of overweight (based on anthropometric measure), body satisfaction, and dieting behaviour with difference between self-reported weight and measured weight adjusting for age.

Results:

Difference between measured and self-reported weight varied from -20.50 kg to 29.00 kg (mean: 2.04, STD:4.44). Females ($p<0.05$) and overweight children ($p<0.001$) tended to report lower weight in comparison to measured weight. Age, body satisfaction and dieting behaviour were not associated with differences in a statistically significant way.

Conclusion:

The findings are important for a critical interpretation of subjective self-reported data on adolescents´ body weight. Attention should be paid particularly on data from overweight children which tend to report a lower than their measured body weight.

Acknowledgement:

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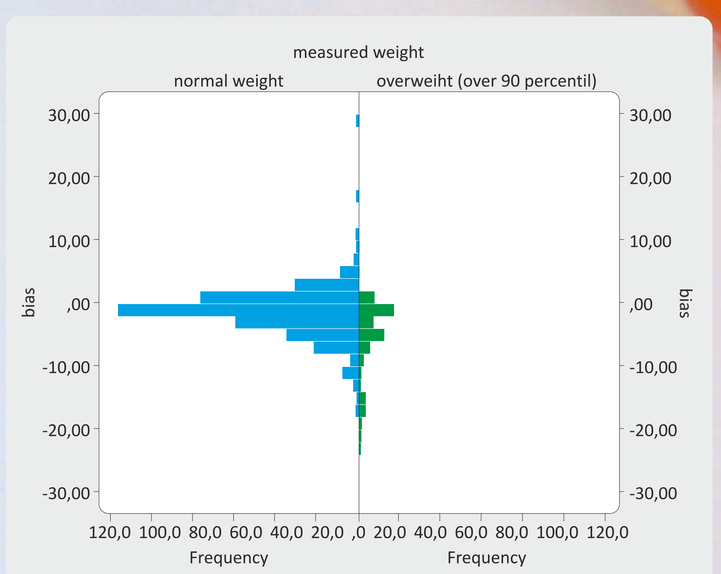

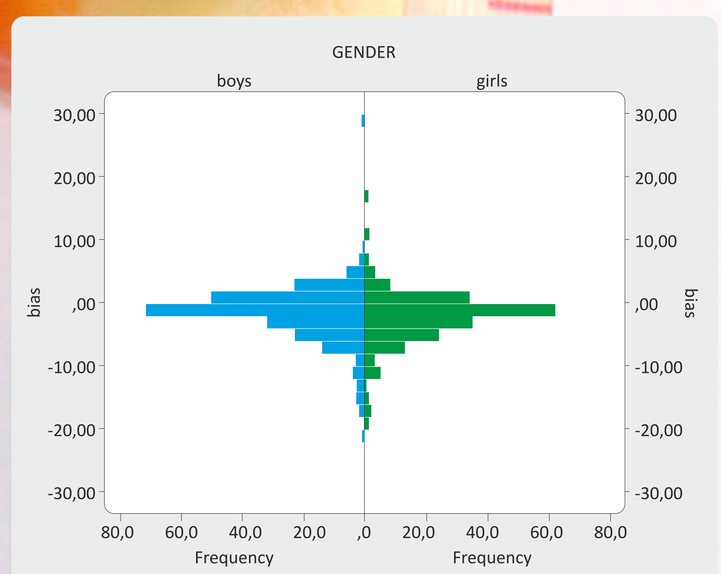

Comparing bias in groups by gender and overweight

Bias (kg)	Boys	Girls	Normal weight	Overweight
Median	-1.40	-1.65	-1.25	-3.1
Mean (STD)	-1.83 (0.30)	-2.31 (0.30)	-1.56 (0.21)	-5.11 (0.73)
CI low/upp	-2.42/-1.24	-2.51/-1.71	-1.97/-1.15	-6.56/-3.65
Min/Max	-20.5/29.0	-20.0/17.0	-17.70/29.0	-20.5/1.2

Discrepancy in identification of overweight using reported vs measured weight and height

Based on measured weight and height	Based on reported weight and height	
	Normal weight	Overweight
Normal weight	352/83.8%	11/2.6%
Overweight	20/4.8%	37/8.8%

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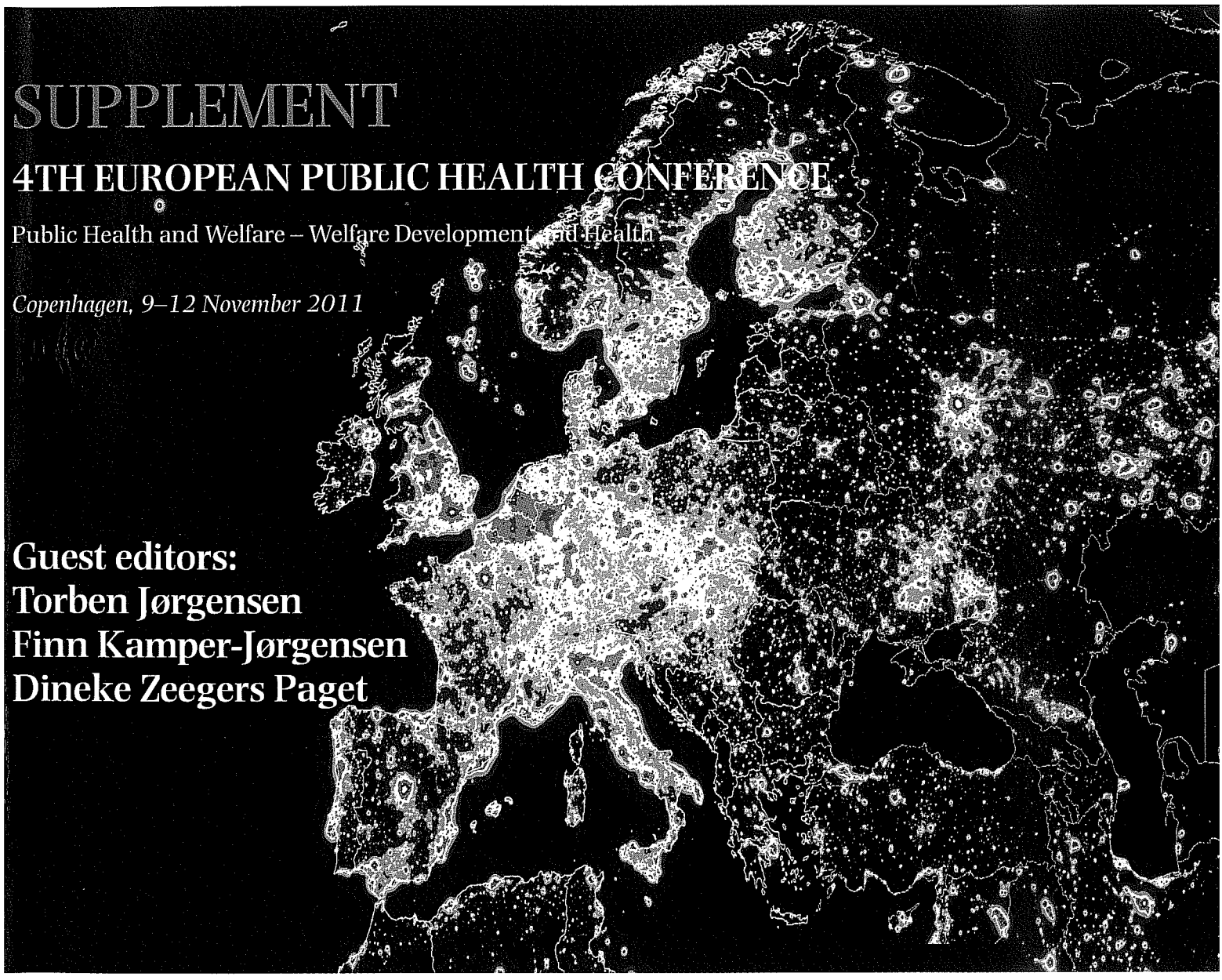

SUPPLEMENT

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Results
25 studies have been selected, the percentage of OW varied between 18% and 33,7% and OB between 5,5% and 21,9%.The highest values were in Southern Italy (OW: 25.6%, 95% CI = 24.8–26.3; OB:15.2%, 95% CI = 13–17.5) vs Central Italy (OW: 22.6%, 95% CI = 21–24.1; OB:9.3%, 95% CI = 7.9–10.7) vs Northern Italy (OW: 21%, 95% CI = 19.6–22.3; OB: 8.2%, 95% CI = 6.8–9.7).
Conclusions
A relevant prevalence of OW and OB was found in Italy, the excess weight concerns one child in four. Whereas for OB there are not significant differences in geographical distribution (North, Centre and South of Italy), the high prevalence of OW resulted statistically significant in the Southern compared to Central and Northern Italy. These differences are likely linked to different geographical areas in relation to socio-economic and environmental condition that must be further investigated. There is a need of promoting better eating babits in young children in Italy, above all in areas with highest prevalence.

Lifestyle health behaviour and perceptions of body satisfaction, image and ideal body weight (BMI) in Polish youth (2010–11)

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Background
How teenagers perceive themselves in relation to perceived body image/weight and self-contentment strongly influences lifestyle behaviour thereby impacting on public health in adulthood. This study focuses on target areas that require remedial action especially identifying problem areas different to both sexes.
Methods
A large scale monitoring study was recently undertaken on youngster's health behavior, (n = 25,000), aged 12–24 years attending school & university throughout Poland based on the USA equivalent 'Youth Behavioural Risk Factor Surveillance System', (YBRFSS), performed by trained SANEPID staff. Teenagers pay special attention to appearance and this survey focused on body weight and height allowing BMI calculation.
Results
According to WHO, BMIs for teenagers < 18 years are estimated from percentile graphs whilst those > 18years the BMI is equal to the weight:growth ratio squared. 10% of youngsters were thus discovered overweight and 5% obese, which in girls essentially remained constant over time compared to males where increases with age were seen at a constant ratio of being overweight:obese. Perceptions of being satisfied with image showed considerable differences between gender and age; 75% females with correct BMI nevertheless slimmed contrasting to males, especially youngsters, who desired weight-gain despite having normal BMIs. Over half the females adopted non-natural methods of weight loss, (through drugs or starvation regimes), however their mother's replies generally agreed, in contrast to boys where being overweight and obese went unrecognised. Eating disorders were observed in 20% of cases and coincided with girls adopting non-natural weight loss methods and were related to low self-esteem, bad relations with parents, especially mothers. 90% of respondents however gave favourable replies regarding relations with peers, happiness and the meaning of life, irrespective of gender.
Conclusions
Schools, healthcare staff and the media should therefore promote/educate a healthy lifestyle achieved by natural means allowing for gender differences.

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Andrea Madarasova Geckova

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Methods
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Conclusion
The findings are important for a critical interpretation of subjective self-reported data on adolescents' body weight. Attention should be paid particularly on data from overweight children which tend to report a lower than their measured body weight.

Prevalence and trends of Metabolic syndrome and its components in Siberian adolescent population

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Metabolic syndrome (MS) is one of the main risk factors of CVD. The symptoms of MS appear long before the vascular dramatic event develops, particularly if there is a combination of unfavorable genetic factors and unhealthy life style.
The aim of the study was to investigate the prevalence of MS and its components (hypertriglyceridemia, low levels of HDL cholesterol, elevated blood pressure, abdominal obesity and hyperglycaemia) among adolescents aged 14–17 in Novosibirsk, Russia.
Methods
Representative samples of adolescent population 14–17 years of age and both sexes were investigated in Novosibirsk. In 2003 663 persons were examined, in 2009 - 742. The prevalence of the components of MS was estimated with the IDF criteria (2007): abdominal obesity (≥90 percentile of waist circumference) and the presence of two or more other clinical features (triglycerides ≥150 mg/dl, HDL-cholesterol <40 mg/dl, BP ≥130/85 mm Hg, plasma glucose ≥5,6 mm/l).