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Discordance between perceived body size and actual body size and psychological wellbeing in adolescence: Evidence from the multi-ethnic DASH longitudinal study

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Body image dissatisfaction is a source of distress for many young people and an important predictor of psychological function in young people. Weight misperceptions are common among adolescents in the United Kingdom⁽¹⁾ and are correlated with depression, anxiety and low-self esteem⁽²⁾. The prevalence of obesity, body image dissatisfaction and the desire to be thin increase as children approach puberty, and can start as early as age nine⁽³⁾. The aim of this study was to evaluate whether the discordance between perceived body weight and measured Body Mass Index (BMI) influences psychological wellbeing among a multi-ethnic cohort of British adolescents.

Multivariate multilevel models were used to examine the association between psychological wellbeing, measured by the Total Difficulty Score (TDS) from Goodman's Strengths and difficulty Questionnaire⁽⁴⁾ (higher scores correspond with greater difficulties), and discordance among 3,228 adolescents in 49 London schools who participated in the Determinants of Adolescent Social wellbeing and Health longitudinal Study (DASH). Self-perception of body weight, measured anthropometry and psychosocial factors were collected at 11–13 years and at 14–16 years follow-up.

Around 40 % of adolescents had a discordant perception of weight (i.e. underestimated or overestimated actual weight), with girls being more likely than boys to be discordant ($p < 0.05$). Discordance was related to age, ethnicity, gender, family life and racism. Among those who measured overweight/obese, more Black Caribbeans (11.9 %, 95 % CI 9.7, 14.6) and Black Africans (10.5 %, 95 % CI, 8.5, 12.8) than White British (6.9 %, 95 % CI 5.40, 8.81) reported normal weight. Compared with concordance (accurate perception of weight), discordance was associated with higher TDS at 14–16y (+0.56, 95 % CI 0.25, 0.87, $p = 0.01$), independent of all confounders. Increase in discordant perceptions between 11–13y and 14–16y was also associated with increasing TDS (+0.23, 95 % CI 0.10, 0.46, $p = 0.04$), which attenuated on adjustment for racism. These effects did not vary by ethnicity.

These results confirm that misperception of weight is common and is associated with worse psychological wellbeing in adolescence. Interventions that engage with the underlying determinants of discordance, such as racism, and target families with young children could seem warranted.

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