

## Body esteem in British children: Differences due to weight status, ethnicity and gender

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### Abstract

Body esteem is an important variable that has been linked to a range of negative health outcomes including depression, negative affect, obesity and increased risk of suffering from eating disorders. However, little information is available regarding ethnic differences in body esteem in British children. Objective: To examine gender, ethnic and weight status differences in body esteem in a sample of British children. Methods: The study was cross sectional in design and assessed body esteem and weight status in 756 children (394 boys, 362 girls, mean age  $11.4 \pm 1.6$  years). Body esteem was determined using the body esteem scale for children. Height and body mass were measured directly. Body mass index was determined as  $\text{kg/m}^2$ . Overweight/obesity status was determined using child-specific, International Obesity task force cut-off points. Results: A 2 (gender) X 3 (ethnicity) X 2 (weight status) ways analysis of variance (ANCOVA) controlling for age indicated that body esteem was higher for normal weight boys compared to girls whereas body esteem scores were similar for boys and girls in the overweight/obese category ( $P = 0.044$ ). Body esteem scores were higher in boys compared to girls from white and black ethnic groups but this pattern was reversed for Asian boys and girls ( $P = 0.039$ ). Conclusions: Findings of this study indicate that body esteem interacts with weight status and ethnicity across gender groups in British children after controlling for age. In the context of the current study overweight children and Asian boys may be particular populations where future research needs to focus.

**Keywords:** Obesity, body image, Asian, body mass index.

### Introduction

Body image concerns in childhood are becoming increasingly prevalent in western society and have been linked to a number of social, psychological and physiological problems including increased incidence of eating disorders, use of illegal substances, cosmetic

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surgery, restricted eating, poor psychological well being, obesity and excessive exercise (1,2). Furthermore, weight status may be particularly important in the development of these concerns. The societal preference for leanness in the western world stigmatises overweight and obesity. This in turn places a social and psychological burden on children who are dissatisfied with their bodies that can lead to considerable negative health outcomes (3). Although levels of overweight and obesity are increasing worldwide (4,5) studies have also reported increasing body image problems in young people (6,7). Previous studies have indicated that girls express greater body dissatisfaction, lower body esteem and more negative body image than boys (1,8) and that black individuals have a more positive body image and greater body esteem than other ethnic groups (9,10). Franko and Streigel-Moore (9) go on to suggest that black individuals have different standards of attractiveness and place less emphasis on thinness for attractiveness compared to other ethnic groups. British Asian girls have also been identified as a group who may be at risk of developing eating disorders and body esteem problems (11). Hill and Bhatti (11) reported that Asian girls may be subjected to ethnic specific media (e.g. Hindu films) that result in low body esteem and that in all cases lower body esteem was related to higher eating restraint. They suggested that further research was needed examining body image in this group. However, the majority of studies examining ethnic differences in body image have been based on American samples and have tended to examine either adult populations or a restricted range of ethnic groups that may not be applicable to countries outside of North America.

For example, Jones, Fries and Danish (12) recently reported that Caucasian adolescent females were more dissatisfied with their bodies than African American females. While this work highlights a possible role of ethnicity on body image, further research on this topic is needed to provide information from other countries and on wider ranges or different ethnic groups. Additionally, those studies that have examined ethnic differences in children's body image do not appear to have directly assessed weight status and this has been highlighted as a future research need (12). Therefore, this study was designed

to explore any ethnic and weight status differences in body image in British children.

## Methods

Following institutional ethics approval and informed consent, 756 children (394 boys, 362 girls, mean age  $11.4 \pm 1.6$  years SD) participated in the study. Participants were classified using methods currently employed by the Department for Education and Skills (13) when classifying ethnic group in schools as being from black ( $n = 62$ ), white ( $n = 549$ ) and Asian ( $n = 142$ ) ethnic groups.

### *Procedures*

Height and body mass were assessed using a Seca stadiometre and weighing scales (Seca Instruments, Germany) from which body mass index (BMI) was calculated and children were classified as 'normal weight' ( $n = 534$ ) and 'overweight/obese' ( $n = 221$ ) according to International criteria (14). Prior to collection of anthropometric data, body image was assessed individually using the Body Esteem Scale for Children (15).

### *Data analysis*

Body esteem scores were analysed using a 2 (gender) X 3 (ethnicity) X 2 (weight status) ways analysis of variance (ANCOVA) controlling for age at a value of 11.4 years. The statistical Package for Social Sciences (SPSS version 15) was used for all analysis.

## Results

Results from ANCOVA revealed a significant gender by weight status interaction ( $F1, 746 = 4.07, p = 0.044$  Partial  $\eta^2 = 0.005$ ) and a significant gender by ethnicity interaction ( $F2, 746 = 3.26, p = 0.039$ , Partial  $\eta^2 = 0.009$ ). Body esteem was higher for boys compared to girls in the normal weight category

whereas body esteem scores were similar for boys and girls in the overweight/obese category (see figure 1). Furthermore, body esteem scores were higher in boys compared to girls from white and black ethnic groups but this pattern was reversed for Asian boys and girls (see figure 2).

A significant main effect was also evident for weight status ( $F_{1, 746} = 151.5, p = 0.0001$ , Partial  $\eta^2 = 0.169$ ) with normal weight children reporting

significantly higher body esteem than their overweight/obese counterparts. Mean  $\pm$  S.D. of body esteem scores were  $16.33 \pm 5.1$  for normal weight children and  $11.3 \pm 5.2$  for the overweight/obese children. The ‘age’ covariate also identified that as children got older physical activity declined (slope parameter  $\beta = -.375; F_{1, 746} = 10.52, p = 0.001$ , Partial  $\eta^2 = 0.014$ ).

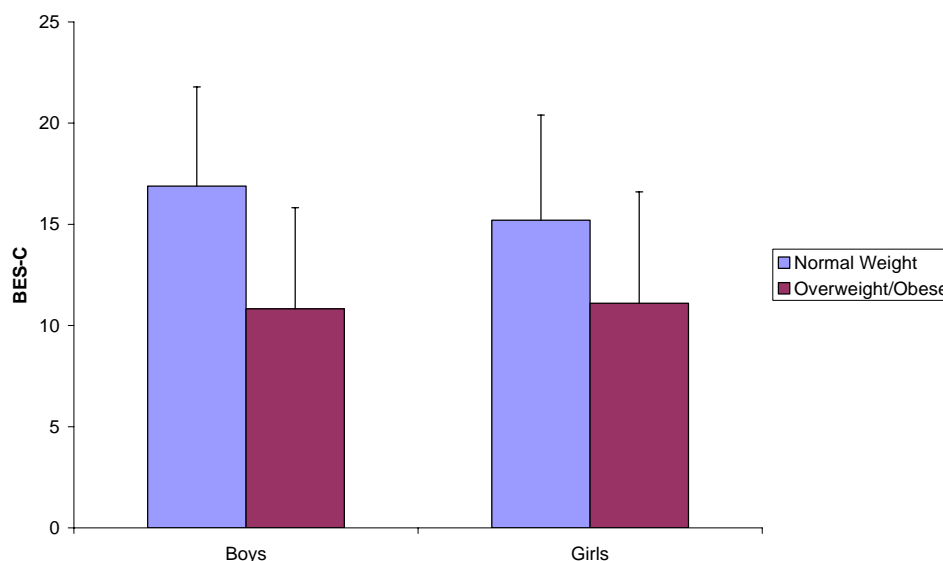


Figure 1. Mean  $\pm$  S.D. of body esteem scores between boys and girls and across weight status groups.

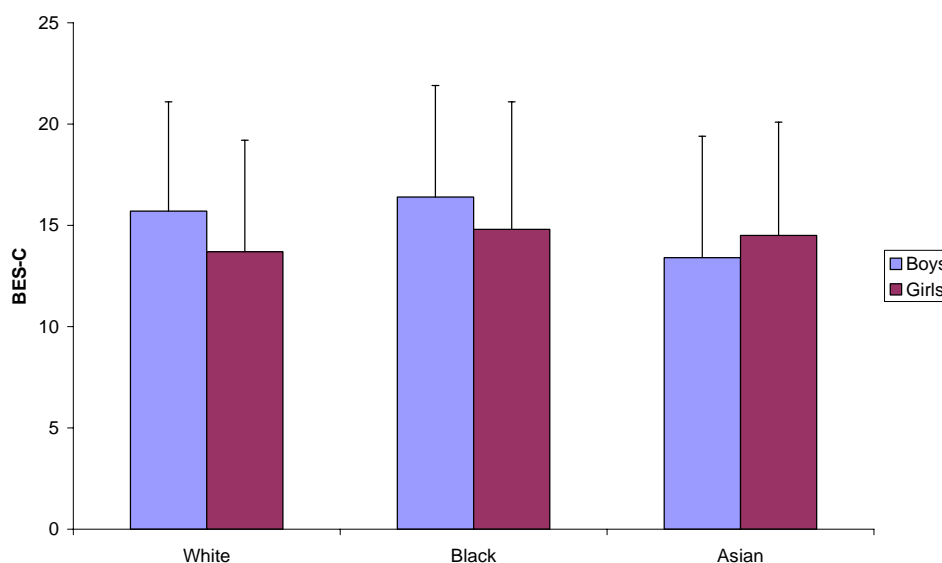


Figure 2. Mean  $\pm$  S.D. of body esteem scores between boys and girls and across ethnic groups.

## Discussion

Findings of this study indicate that body esteem interacts with weight status and ethnicity across gender groups in British children after controlling for

age. Although the main effect for weight status found in this study is not surprising, this study present novel work in that at 'normal' weight status boys reported higher body esteem than girls, as has been reported widely in the literature (1,14). However, there was no difference in body esteem scores between boys and girls who were overweight/obese. This does not appear to have been specifically examined in prior studies although Presnell et al (16) have reported that boys report more body dissatisfaction than girls when they are above 'average' weight. This suggestion would seem to, at least partly, explain the findings of the current study although more research would be warranted to substantiate this claim. The second novel finding of this study was that body esteem was significantly lower in Asian boys compared to Asian girls, whereas the opposite was true of white and black children. This finding seems to support previous studies that have documented more positive body image in black individuals compared to those from other ethnic groups (9,10). These results also support research by Hill and Bhatti (11) that body image issues in Asian children may be a cause for concern. Hill and Bhatti (11) proposed that Asian children may be particularly influenced by ethnic specific media (e.g. Hindu films) that may shape body image in childhood. In the context of the current study Asian boys may be a particular population where future research needs to focus as they had the lowest values for body esteem than any other groups in the study irrespective of gender. The covariate of 'age' was also significant with older children reporting lower body esteem. This finding is not surprising and has been reported previously (1). However, the population in the current study were drawn from a relatively wide age range which possibly may have taken in preadolescent and adolescent children. The authors attempted to take account of this by controlling for age in their analysis. However, this could be viewed as a limitation of the study and as such, future research, that takes account for pubertal status, is needed to support the findings of the current study.

## Conclusions

The results of this small, exploratory study suggest that weight status interacts with a number of other variables, notably gender and ethnicity when

examining differences in body esteem. Further work is needed on this topic, possibly from a qualitative and quantitative standpoint, in order to really elucidate the nature of these interactions. This level of analysis was beyond the remit of the current study but is obviously an interesting and important avenue for future research and may be important in targeting interventions aimed at improving children's body image and/or weight status.

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