Short communication

The stigmatization of obesity in children. A survey in Greek elementary schools

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Introduction

Obesity is a major medical problem, not only in adults, but also in children and adolescents (Sorof & Daniels, 2002). According to the World Health Organization, prevalence of overweight and obesity is increasing worldwide at a significant rate (WHO, 2000). Approximately, 22 million children less than 5 years old across the world are overweight (Deckelbaum & Williams, 2001). Studies in Greece have revealed an increased prevalence of overweight and obese individuals among Greek children (Krassas, Tzotzas, Tsametis, & Konstantinidis, 2001; Mamalakis, Kafatos, Manios, Anagnostopoulou, & Apostolaki, 2000; Tokmakidis, Kasambalis, & Christodoulos, 2006). In fact, Greece has one of the highest levels of childhood obesity in Europe (Lissau et al., 2004).

The effects of obesity on childhood are not only physical, but also psychological with the latter being the most widespread issue. The commonest medical consequences of obesity in children are early maturation, increased blood lipids, diabetes mellitus, hypertension, pseudotumor cerebri and sleep apnea (Dietz, 1998; Melidonis et al., 2006). With regards the psychological effects of obesity, overweight and obese children and adolescents usually become targets of societal stigmatization and systematic discrimination (Dietz, 1998; Puhl & Latner, 2007). According to Puhl and Latner (2007) weight stigma refers to negative weight-related attitudes and beliefs, which are manifested by stereotypes, bias, rejection, and prejudice towards overweight or obese individuals. Two decades ago, Parker and Asher (1987) reported that young persons, who are stigmatised for their weight, might fail to achieve normal social developmental competencies. More recent findings (Morissette & Taylor, 2002) support Parker and Asher's report, showing that obese children often face peer rejection, isolation, humiliation, and hostility during a time in their lives when acceptance and development of social skills are critical.

Overweight and obese children are vulnerable to weight stigma from other sources, in addition to that from peers. Educators, parents and even health professionals (Neumark-Sztainer, Story, & Brownell, 2002; Neumark-Sztainer et al., 2002; Ocana, 1999; Neumark-Sztainer et al., 2002; Schwartz, Chambliss, Brownell, & Hill, 2003; Tiggemann & Wilson-Barrett, 1998; Wardle, Volz, & Goldberg, 1995) have been reported to stigmatise obese children.

Studies conducted in the early 1960s revealed high degrees of discrimination towards the obese among elementary school students (Goodman, Dornbusch, Richardson, & Hastorf, 1963; Maddox, Back, & Liederman, 1968; Richardson, Goodman, Hastorf, & Dornbusch, 1961). Later, and Stunkard (2003) replicated the Richardson et al. (1961) study on stigma in childhood obesity and found that the stigmatization of obesity by children has increased since the 1960s, although western societies have placed greater emphasis on the acceptance of human diversity.

A considerable number of Greek studies have investigated dietary habits and prevalence of overweight and obese individuals among Greek children (Karayiannis, Yannakoulia, Terzidou, Sidiou, & Kokkevi, 2003; Manios et al., 2007; Piperakis, Papadimitriou, Zafiropoulou, Piperakis, & Zisis, 2007; Roma-Giannikou, Adamidis, Gianniou, Nikolara, & Matsaniotis, 1997). However, no research on...
stigmatization of obesity in children has been ever conducted up to now in Greece. It is, therefore, our aim to bridge this significant gap and explore Greek elementary school students’ attitudes towards obesity in an effort to record the situation in Greece, compared to that of other countries.

Method

Participants

A total of 1861 Greek students were recruited from 45 primary schools in Central Greece representing a mixed socioeconomic group. Of those, 934 (50.2%) were girls and 927 (49.8%) were boys. All participants, aged between 10 and 11 years, were of Greek origin and attended fifth grade (mean age = 10.93, S.D. = 0.35). Prior to their participation, their body mass index (BMI) was calculated based on anthropometric measures.

Measures

Body mass index

BMI was calculated as body weight divided by body height squared (kg/m²). Overweight and obesity were defined according to the International Obesity Task Force (IOTF) recommendations (Cole, Bellizzi, Flegal, & Dietz, 2000). Age and sex specific BMI cut-off points for overweight and obesity in children (between 2 and 18 years) were constructed using dataset specific centiles corresponding to the widely accepted adult cut-off points of a BMI of 25 kg/m² (overweight) and 30 kg/m² (obesity). Table 1 shows details of the sample.

Stimuli

Six male and six female child figures (depicting approximately 11-year-old) kindly provided by Latner, Rosewall, and Simmonds (2007), were presented to the participants in a questionnaire. The figures portrayed a non-disabled and thin child (“healthy”), an overweight child (“obese”) and four more representing boys and girls with various disabilities or disfigurements, i.e. a child on crutches (“crutches”), a child in a wheelchair (“wheelchair”), a child with no left hand (“hand”), and finally, a child with a large scar on the left side of the face (“face”).

Questionnaires

Each child was assessed using drawings of the same gender, that is to say, girls ranked figures of girls, while boys ranked figures of boys. Children were shown the six figures and asked to circle the one they liked best. They were then shown another set of the figures below the first set and asked to circle the one they liked second best, and so on, till six rankings were obtained. After that, the participants were asked to check their answers to make sure that they circled each figure only once.

Procedure

Before locating the research sample, the researchers sent information letters to 50 schools, explaining the objectives of the study and requesting participation of their 5th grade students. Forty-five schools agreed to take part and teachers undertook to inform parents. The assessments took place in the children’s school classrooms. Children’s BMI was recorded in a closed-off area to ensure privacy of participants. Before filling in the questionnaire, children were informed that their answers would remain confidential since the questionnaires were anonymous. Furthermore, it was made clear to them that there were no right or wrong answers, so they should answer the questions as honestly as possible. They were also asked to give their personal answers and not share their answers with their classmates.

Statistical analyses

Each participant’s ranked preferences were numbered from 1 to 6 (number 1 representing the highest ranking and number 6 the lowest). Kruskal–Wallis H-tests were used to examine possible differences in mean rankings between genders. Kendall’s coefficient of concordance W was computed to assess whether there was significant agreement on the rank order among participants.

Results

Table 2 shows frequencies and percentages of participants in each of the six ranking positions. The majority of the participants (81.4%) ranked the “healthy child” figure first or second. On the contrary, the “obese child” figure was ranked last or second last by more than half of the participating sample (56.4%). A significant agreement on the rank order across participants, as shown by Kendall’s coefficient of concordance [W(5) = 0.27, p < 0.005] was found.

The “healthy child” figure was given the highest mean ranking among the six drawings while the “obese child” figure received the lowest. Gender differences were recorded in five of the rankings. Girls ranked the “healthy”, “facially disfigured” and the “obese child” figure significantly lower than boys did [H(1) = 11.826, *p* < 0.001].

### Table 1

Sample (underweight, normal, overweight and obese), distribution, and percentages

<table>
<thead>
<tr>
<th>Body weight (mean BMI)</th>
<th>Gender</th>
<th>N (Male, N (%))</th>
<th>N (Female, N (%))</th>
<th>Total, N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight (14, 14)</td>
<td></td>
<td>36 (3.9)</td>
<td>42 (4.5)</td>
<td>78 (4.2)</td>
</tr>
<tr>
<td>Normal (17, 73)</td>
<td></td>
<td>524 (56.5)</td>
<td>669 (71.6)</td>
<td>1193 (64.1)</td>
</tr>
<tr>
<td>Overweight (21, 61)</td>
<td></td>
<td>266 (28.7)</td>
<td>155 (16.6)</td>
<td>421 (22.6)</td>
</tr>
<tr>
<td>Obese (25, 53)</td>
<td></td>
<td>101 (10.9)</td>
<td>68 (7.3)</td>
<td>169 (9.1)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>927 (100)</td>
<td>934 (100)</td>
<td>1861 (100)</td>
</tr>
</tbody>
</table>

### Table 2

Frequencies (and percentage) of participants’ rankings for each figure

<table>
<thead>
<tr>
<th>Figures</th>
<th>Rank positions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Healthy</td>
<td>1284 (69.0)</td>
</tr>
<tr>
<td>Face</td>
<td>171 (9.2)</td>
</tr>
<tr>
<td>Crutches</td>
<td>78 (4.2)</td>
</tr>
<tr>
<td>Wheelchair</td>
<td>223 (12.0)</td>
</tr>
<tr>
<td>Hand</td>
<td>71 (3.8)</td>
</tr>
<tr>
<td>Obese</td>
<td>40 (2.1)</td>
</tr>
</tbody>
</table>
Table 3
Mean (S.D.) rankings by gender for each figure

<table>
<thead>
<tr>
<th>Figures</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>Total (Latner &amp; Stunkard, 2003)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy</td>
<td>1.67 (1.33)</td>
<td>1.83 (1.42)</td>
<td>1.75 (1.38)</td>
<td>1.97 (1.44)</td>
</tr>
<tr>
<td>Face</td>
<td>3.08 (1.45)</td>
<td>3.27 (1.48)</td>
<td>3.17 (1.47)</td>
<td>3.09 (1.67)</td>
</tr>
<tr>
<td>Crutches</td>
<td>3.64 (1.30)</td>
<td>3.55 (1.30)</td>
<td>3.59 (1.30)</td>
<td>3.39 (1.17)</td>
</tr>
<tr>
<td>Wheelchair</td>
<td>3.98 (1.60)</td>
<td>3.75 (1.68)</td>
<td>3.86 (1.65)</td>
<td>3.86 (1.51)</td>
</tr>
<tr>
<td>Hand</td>
<td>4.24 (1.42)</td>
<td>3.99 (1.52)</td>
<td>4.11 (1.48)</td>
<td>3.70 (1.62)</td>
</tr>
<tr>
<td>Obese</td>
<td>4.38 (1.49)</td>
<td>4.50 (1.47)</td>
<td>4.49 (1.48)</td>
<td>4.97 (1.27)</td>
</tr>
<tr>
<td>N</td>
<td>927</td>
<td>934</td>
<td>1861</td>
<td>415</td>
</tr>
</tbody>
</table>

* Latner and Stunkard's (2003) data.
* Significant difference between boys’ and girls’ rankings at p < 0.05.

Discussion

Obesity appears to elicit a very strong stigma. Stigmatised individuals are vulnerable to serious psychological and social effects (Puhl & Brownell, 2003). The fact that Greece has one of the highest levels of childhood obesity in Europe (Lissau et al., 2004), should give rise to serious concerns regarding not only the physical but also the psychological health of Greek children.

The present study aimed at investigating Greek elementary school students’ acceptance or disapproval of obesity with the participation of a considerable number of participants. Our findings revealed that elementary school students in Greece are strongly biased against obese peers and significant weight discrimination has clearly emerged among young Greek students. According to our results, all children, regardless of their own body weight, tend to hold negative attitudes towards obese children. It was also found that weight stigma exists among obese as well as among normal and underweight individuals. The present results parallel reports of previous studies, which have revealed that overweight and obese individuals, across a range of ages, are just as likely to endorse negative attitudes towards obesity as average-weight individuals (Cramer & Steinwert, 1998; Davison & Birch, 2004; Kraig & Keel, 2001; Latner, Stunkard, & Wilson, 2005; Tiggemann & Anesbury, 2000).

We have also found that weight stigma is inherent in children as young as 10–11 years old. Similarly, a series of research studies report that weight stigmatization begins at an early age. In fact, it has been indicated that weight stigma is already evident from preschool years and lasts all through adulthood. Cramer and Steinwert (1998) reported that 3–5-year-old pre-school children described an overweight child to be more mean and undesirable playmate in comparison to an average-weight child. Others have found that even preschool children ascribe more negative characteristics to fat figures than to normal ones (Turnbull, Heaslip, & McLeod, 2000). Likewise, Brylinsky and Moore (1994) found that children, starting at the age of 3, associated overweight individuals with being mean, stupid, ugly, unhappy, lazy, and having few friends. In another study, which examined weight based stigma among 7–9-year old it was reported that ratings were most favourable for pictures of thin children and least favourable for chubby children (Kraig & Keel, 2001).

Bias against obese children reported in our study is comparable to that reported by Latner and Stunkard (2003). In a more recent study, which was conducted in New Zealand with 261 of 10–13-year-old students, Latner, Rosewall, et al. (2007) have also found that the healthy child is the most preferable, while the obese one is the least preferable. They also came up with the finding that media exposure (television, videogames and magazines) is associated with stigmatizing attitudes towards obese individuals. Likewise, Latner, Simmonds, Rosewall, and Stunkard (2007) assessed obesity stigmatization in 10–13-year old using a modernized tool (computerized test), to show the six different figures and reported that weight stigma is pervasive and stable across different measures of assessment.

Another interesting finding was that no differences were found in obesity stigmatization among children of different weight groups. This, actually, means that even overweight or obese children are negatively disposed towards obesity. The above finding is in accordance with that of previous studies (Davison & Birch, 2004; Latner et al., 2005; Tiggemann & Anesbury, 2000).

Gender differences in the present study were found in five out of six rankings while Latner and Stunkard (2003) recorded differences in four rankings. In accord with their study we also found that Greek boys seem to dislike functional disabilities (“wheelchair” and “hand”), while Greek girls tend to dislike appearance problems (“face” and “obese”).

In conclusion, our results show that stigmatization of overweight children is highly prevalent among Greek students. The seriousness of the psychosocial problems caused to children and adolescents by excessive body weight, at such a critical stage in their emotional and social development, should call for immediate attention. Weight stigma needs to be studied in depth as for its sources and consequences. As a result, preventive measures should be designed and implemented aiming at both the effective reduction of obesity and the proper sensitisation of individuals towards diversity acceptance.

Acknowledgments

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References


