

Family Functioning and Psychosocial Adjustment in Overweight Youngsters

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Abstract: Objective: To analyze the relationship between family functioning and psychosocial adjustment in Dutch overweight children and adolescents. **Method:** Seventy-three overweight (weight-for-height >P90) and 70 normal-weight youngsters between the ages of 10 and 16 years were recruited by school physicians during routine medical screening. The Family Dimension Scale, the Child Behavior Checklist, the Teacher Report Form, the Self-Perceived Competence Scale, and the Body-Esteem Scale were filled out, as well as a specific weight-related questionnaire. **Results:** Both parents and teachers report more behavior problems in overweight children, particularly in the younger than 13 age group. Lower body-esteem was found in older overweight girls, whereas in older overweight boys higher levels of body-esteem were found. More significant relationships were found with the weight-related Parental Concern Scale than with the Family Dimension Scale. **Discussion:** The results suggest that a developmental psychological approach reveals important age and sex differences. Weight-related instruments may be more useful than general questionnaires. © 2000 by John Wiley & Sons, Inc. *Int J Eat Disord* 27: 110–114, 2000.

Key words: obesity; family functioning; behavior problems; body-esteem

INTRODUCTION

Four decades of research on the relationship between obesity and psychosocial functioning in adults (Stunkard & Wadden, 1992) and children (Mendelson, 1985; Braet et al., 1997) has yielded disappointingly few unequivocal results. Other research suggests large individual variation in behavioral functioning within overweight children (Epstein, 1994), but little is known about factors explaining the variations between overweight boys and girls (Mendelson, White & Schlieker, 1995). Particularly relevant for obesity research are

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the studies focusing on self- and body-esteem (Kaplan & Wadden, 1986; Banis et al., 1988; Braet, 1997; Mendelson & White, 1982, 1985; French, Perry, Leon & Fulkerson, 1995). However, developmental perspectives on the self- and body-esteem of overweight children are seriously lacking in the literature (Woody, 1986; French et al., 1996).

This study focuses on the age-related changes and sex differences in behavior problems and self-esteem. Furthermore, general family functioning as well as weight-specific parental (over)concern are investigated in relation to the weight status of the child.

METHOD

Subjects

One hundred forty-three children (73 overweight and 70 normal weight) and their parents participated in this study (Table 1). The children are between 10 to 16 years of age and are distributed equally across age, sex, socioeconomic status (SES), and school levels. Subjects were recruited by school doctors and nurses of a Basic Health Service. Weight-for-height above P90 (Roede & Van Wieringen, 1985) established overweight. Furthermore, the whole group was divided into two age and two weight groups, that is, (pre)pubertal children (10–13 years) and (young) adolescents between 13 and 16 years of age and moderately (<132%) and severely overweight children ($\geq 132\%$).

Instruments and Measurements

The Family Dimension Scales (FDS; Buurmeijer & Hermans, 1988) assesses family functioning on three subscales: Cohesion, Adaptability, and Social Desirability. The FDS was completed by the mothers.

The Child Behavior Checklist (CBCL) and the Teacher Report Form (TRF; Achenbach, 1991; Verhulst, 1990) assess the child's behavior problems as judged by parents (CBCL) and teachers (TRF).

The Dutch version of the Self-Perception Profile for Children (SPPC; Harter, 1985; Veerman, 1989) assesses the child's global perceptions of self-esteem and domain-specific judgements of their competence. The six domains are scholastic competence, social ac-

Table 1. Sample characteristics

	Overweight	Normal-Weight
Age	13.47 (1.4)	13.52 (1.3)
Sex		
Boys (n)	41	42
Girls (n)	32	28
%OW	134.17 (10.7)	97.81 (9.1)*
BMI		
Mother	25.30 (3.3)	22.64 (3.3)*
Father	26.98 (3.5)	24.40 (2.8)*

Note: *M* (*SD*), *n* = counts. % OW = percent overweight; BMI = body mass index.

**p* < .05 (significantly lower than the overweight participants).

ceptance, athletic competence, physical appearance, behavior conduct, and global self-worth.

A Dutch version of the Body-Esteem Scale (BES; Mendelsohn & White, 1982) measures affective evaluation of the body.

An additional questionnaire consisted of a scale for scoring parents' (over)concern regarding the overweight status of their child (the Parental Concern Scale). For instance, the parents were asked: "Do you sometimes talk with your child about his/her weight?" and: "Would you prefer some weight loss for your child?" Secondly, parents were asked to provide their own current weight and height, from which their body mass index (BMI) was calculated (Table 1).

Procedure

Children and parents/guardians completed a number of questionnaires in a fixed order. The children were then asked to forward the TRF to their teacher. Analysis of variance (ANOVA), the Mann-Whitney U test, and correlation and regression analyses were the statistical methods used.

RESULTS

Family Functioning

First, a 2 (weight) \times 2 (age) \times 2 (sex) multivariate analysis of variance (MANOVA) on the Cohesion, Adaptability, and Social Desirability Scale of the FDS revealed no differences between overweight and normal-weight children. In addition, a one-way ANOVA revealed no significant differences between moderately and severely overweight children. Second, a 2 (sex) \times 2 (age) \times 2 (overweight) ANOVA conducted on the Parental Concern Scale (data not shown) showed a main effect for overweight status ($F = 5.81, p = .019$). Parents of severely overweight children displayed a higher concern for the overweight status of their child than parents of moderately overweight children.

Individual Characteristics of the Child

2 (weight) \times 2 (age) \times 2 (sex) ANOVAs on the Total Problem Behavior Scales of the CBCL and the TRF¹ showed a main effect for weight [$F(1) = 16.79, p = .000$] on the CBCL and on the TRF [$F(1) = 7.73, p = .007$]. Both mothers and teachers of overweight children reported more behavior problems in these children than in normal-weight children. A Weight \times Age effect was found both on mothers' report [$F(1) = 4.24, p = .041$] and on the teachers' report [$F(1) = 4.06, p = .047$]. Mothers and teachers of young overweight children (under 13 years of age) reported more behavior problems than mothers and teachers of overweight adolescents. Moreover, a main effect for Sex [$F(1) = 4.26, p = .041$] was found on mothers' report. For example, overweight and normal-weight boys are judged to be more problematic than their female counterparts by their mothers. Finally one-way ANOVA revealed no significant differences between moderately and severely overweight children. A 2 (weight) \times 2 (sex) \times 2 (age) MANOVA on the six subscales of the Perceived Competence Scale revealed a significant main effect of weight on the physical appearance

[$F(6) = 33.11, p = .000$] and athletic competence scale [$F(6) = 18.28, p = .000$], and to a lesser extent on the social acceptance scale ($F = 3.94, p = .049$).

Overweight children of both sexes and age groups have lower scores on physical appearance, athletic competence, social acceptance, and global self-worth. An additional 2 (weight) \times 2 (age) \times 2 (sex) ANOVA on the BES also revealed a main effect for weight [$F(1) = 39.69, p = .000$]. In accordance with the responses on the Perceived Competence Scale, overweight children and adolescents displayed lower body-esteem scores than their normal-weight counterparts. In addition, a two-way interaction was found for age and sex [$F(1) = 4.02, p = .047$]. Older girls had relatively lower levels of body-esteem compared to younger girls, while older boys had a somewhat improved body-esteem compared to younger boys. Again, no differences in self-esteem and body-esteem were found between moderately and severely overweight children.

Finally, a weak negative correlation was found between cohesion and mothers' reported behavioral problems of the overweight child (CBCL; $r = -.24, p = .04$). As shown in Table 2, correlational analysis of parents' overconcern showed a positive association with behavior problems as judged both by mothers (CBCL) and teachers (TRF) as well as a negative association with self-perceived social acceptance and body-esteem.

Table 2. Partial correlations between weight-specific parental overconcern and social and emotional adjustment of overweight children, corrected for percentage overweight in the child

	Parental Concern
CBCL	.31 ($p = .04$)
TRF	.38 ($p = .01$)
Self-esteem	-.47 ($p = .001$)
Social acceptance	
Body-esteem	-.32 ($p = .01$)

Note: CBCL = Child Behavior Checklist; TRF = Teacher Report Form.

DISCUSSION

In this study, three important findings emerged. First, parents and teachers of overweight youngsters report more behavior problems. However, the differences between boys and girls and between different age groups are large. Second, overweight adolescent girls report lower body-esteem than their younger counterparts, whereas in overweight boys the opposite trend can be seen. Finally, our overweight-specific Parental Concerns Scale shows more predictive value than the general FDS.

Although overweight children display more psychosocial problems, the extent of these problems is usually small. Even in the most problematic group (prepubertal boys), a lesser degree of disturbance is found than in children referred to mental health clinics. These intermediate scores are interpreted as an "at-risk profile" (Banis et al., 1988). Unfortunately, an at-risk profile has little predictive value and is meaningless as long as it is still

Because of space limitation, tables with raw and/or means are not included with this paper. Requests for detailed information, which should be sent to the first author, will be promptly answered.

unknown under which circumstances and in whom these risks may become manifest. This study suggests that parental overconcern may be an important factor.

Lower self-esteem scores in overweight children and adolescents were most unanimously observed in the domains of physical appearance and athletic competence. These findings parallel the majority of studies on self-esteem, in which no or only a modest relationship between weight status and global measures of self-esteem is reported but systematic differences in body-esteem are reported (for a review, see French et al., 1996). Body-esteem in overweight boys, however, tends to recover somewhat with age, whereas body-esteem in overweight girls become more negative with age. Only longitudinal data, however, can reveal true developmental processes. This study suggests that the importance and influence of being overweight may change differentially for boys and girls as they pass through adolescence (Steen, Wadden, Forster, Andersen, 1997).

Our findings with the Parental Concerns Scale suggest that family functioning should be investigated with more weight-related aspects. A comparison of this subgroup with clinical groups seems self-evident. One can expect that the children who are referred to treatment have parents with a higher concern for their overweight status and that they are assumed to display more psychosocial problems. Further investigations are needed into the nature of the relationship between concerns of the parents and the social and emotional adjustment of the child.

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