



# Eating Behaviour and Weight Problems in Long-term Survivors of Childhood Craniopharyngioma

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## Introduction

Childhood Craniopharyngioma (CP) is a rare dysontogenic malformation originating from remnants of Rathke's pouch. Due to hypothalamic tumour involvement and/or treatment related hypothalamic damage, up to 75% of patients develop hypothalamic obesity, leading to sequelae and impaired quality of life. However, until now the eating behaviour of CP patients and its impact on their weight problems is unknown.

## Patients and methods

In this case-control study, the eating behaviour and psychological assessment of weight problems in 101 CP patients, recruited between 1980 and 2001 in the HIT Endo trial, were analysed as well as a gender-, age- and BMI-matched healthy control group (n=85). Anthropometric measurements and assessment of eating behaviour by the "Inventory for Eating Behaviour and Weight Problems (IEG)" questionnaire were performed at the same time.

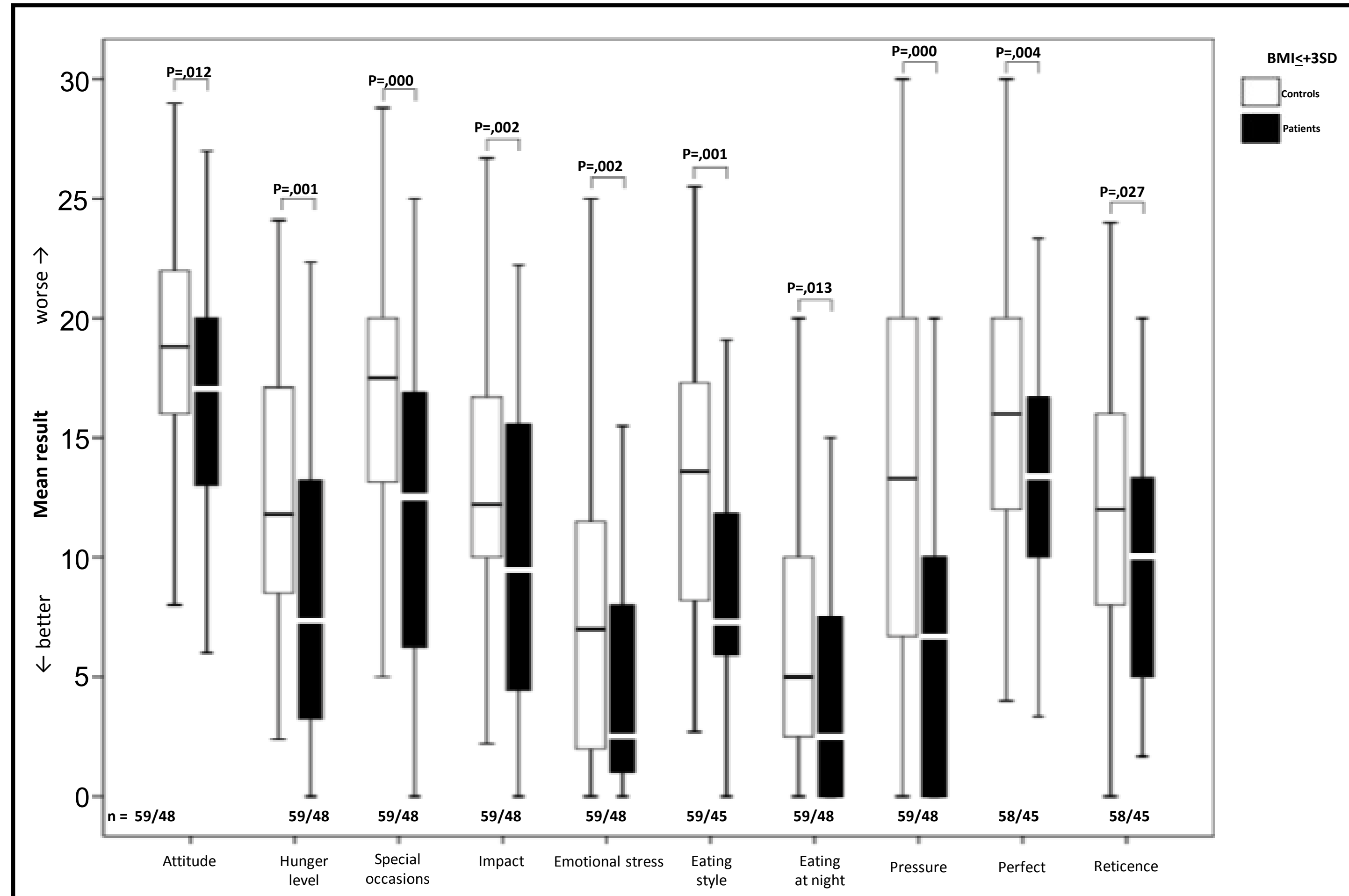


Fig. 1: Normal weight CP patients show less pathological eating behaviour compared to normal weight controls in 10 of 23 domains

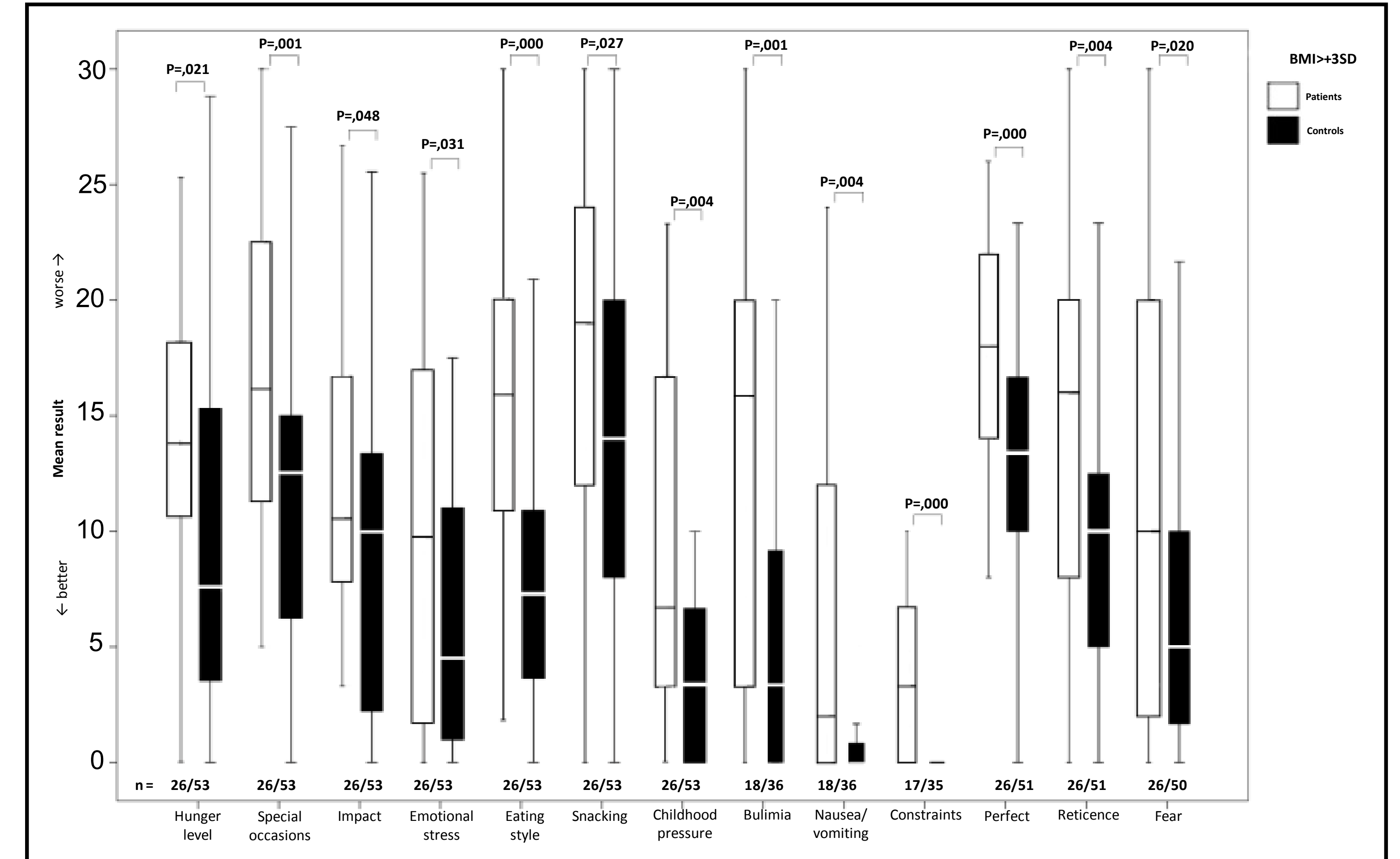


Fig. 2: CP patients with a BMI SD more than +3 SD show less pathological eating behaviour in 13 of 23 domains compared to a control group with a BMI SD above +3 SD

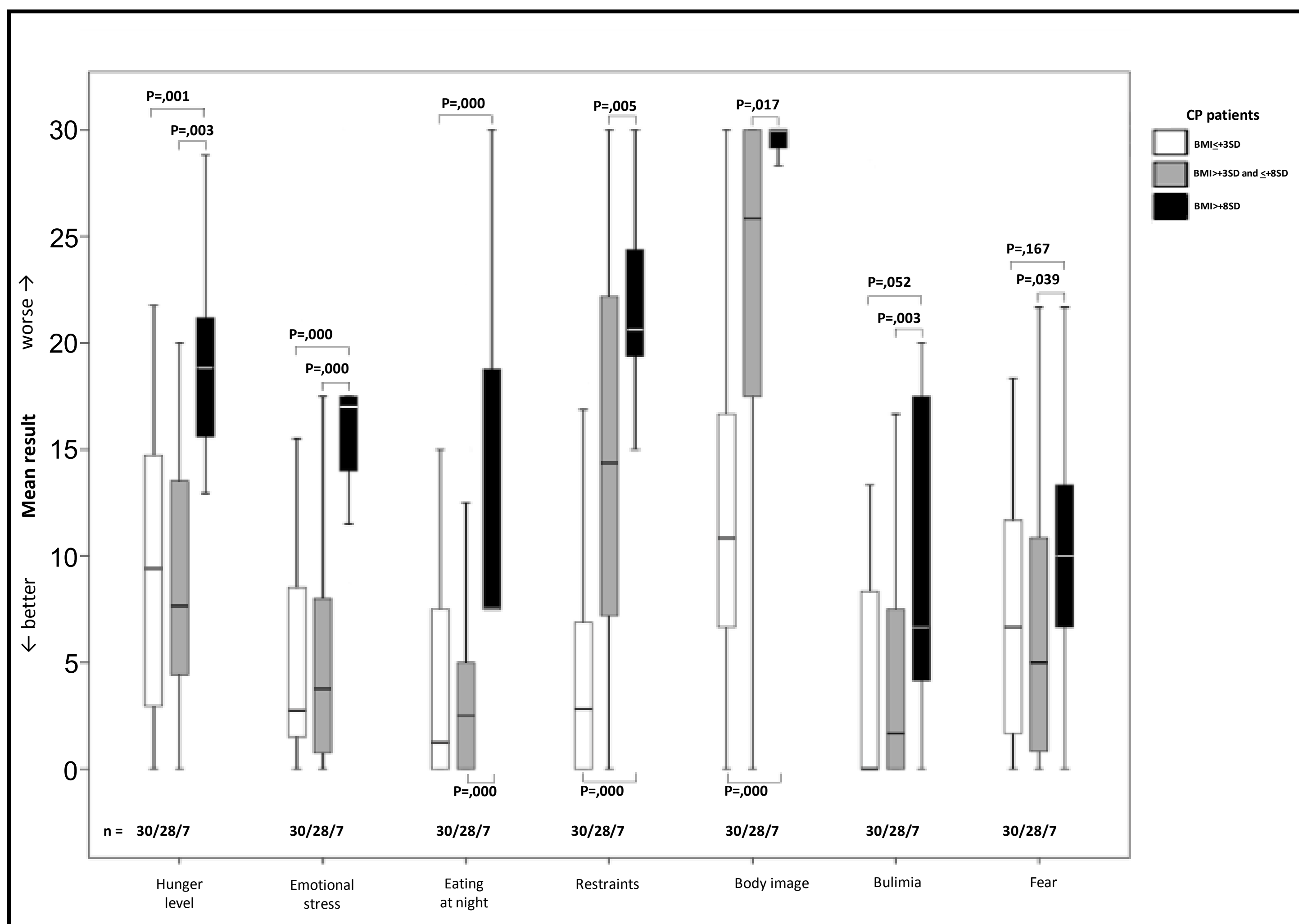


Fig. 3: CP patient with severe obesity (BMI >+8SD) show more problems with eating behaviour compared to CP patients with a BMI ≤ +3SD and CP patients with a BMI SD larger than +3 SD and smaller or equal to +8 SD

DOMAIN	DESCRIPTION OF DOMAIN
Attitude	Attitude towards eating
Hunger level	Hunger level and susceptibility to food cues
Special occasions	Food intake on special occasions
Impact	Importance and impact of eating on sense of well-being
Emotional stress	Eating as a means of coping with emotional stress
Concerns	Concerns about eating and weight
Eating style	Eating style (Eating speed)
Snacking	Snacking between meals
Eating at night	Eating at night
Pressure	Pressure to eat during childhood
Restraints	Restraints due to being overweight
Body image	Dissatisfaction with the figure
Bulimia	Bulimia (Binge eating)
Nausea / Vomiting	Nausea / Vomiting after eating
Constraints	Feeling of constraint while dining
Perfect	Perfectionism and ambition
Reticence	Interpersonal reticence
Fear	Fear of one's own feelings

Table 1: 18 out of 23 domains of the "Inventory for Eating Behaviour and Weight Problems (IEG)" questionnaire with 192 questions (Diehl, J.M., Staufienbiel, T.: Inventar zum Essverhalten und Gewichtsproblemen IEG; Eschborn: 2002)

## Results

The comparison of normal weight controls with normal weight matched controls shows a statistical proven difference in 10 domains. In all of these domains CP patients score better than the normal weight controls (Fig 1). Obese CP patients showed significantly less pathological eating behaviour for 10 of 23 compared to their BMI-matched obese controls (Fig 2). Severe obese CP patients (BMI>+8SD) have significantly more problems with eating behaviour compared to severely obese CP patients with a BMI lower and equal to +8 SD and higher than +3 SD (Fig. 3)

## Conclusions

Obese CP patients score better or non-different to obese controls on all IEG domains. We can conclude that there is no disease specific disturbance of eating behaviour in CP patients. This is further supported by the fact that normal weight CP patients score better or non-different than normal weight controls on all IEG domains. We hypothesize, that severe obesity in CP patients might be the result of hypothalamic involvement / damage but not of disease-specific alterations in eating behaviour. More knowledge of hypothalamic regulation of food intake is needed to recommend appropriate therapeutic options.

