

Research Report

# Perceived parental control of food intake is related to external, restrained and emotional eating in 7–12-year-old boys and girls

Tatjana van Strien\*, Francien G. Bazelier

*Department of Clinical Psychology, Institute for Gender Studies and Behavioural Science Institute, Radboud University Nijmegen, P.O. Box 9104, 6500 HE Nijmegen, The Netherlands*

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## Abstract

This study examined the prevalence of external, restrained and emotional eating and the relationship of these disturbed types of eating behaviours with perceived parental control of food intake (pressure to eat and restriction) in a group of 7- to 12-year-old boys and girls ( $n = 596$ ). External eating turned out to be the most prevalent disturbed eating behaviour for boys and girls, followed by restrained eating and emotional eating. Sex differences were found in external and restrained eating. For the boys, perceived pressure to eat was positively related to emotional and external eating. For both sexes, perceived restriction to eat was negatively related to emotional and external eating and positively related to restrained eating. This led to the conclusion that perceived pressure to eat has a disruptive effect on a child's self-regulating mechanism of food intake, particularly so for boys, whereas perceived restriction can also have a positive effect.

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## Introduction

There is evidence that very young children adjust their food intake in response to the energy content of the food, thus showing a self-regulating mechanism (Birch & Deysher, 1985, 1986; Birch & Fisher, 1998). This adequate self-control and ability to use cues of hunger and satiety to initiate and terminate eating can (unintentionally) be diminished by parental controlling approaches, such as parental pressure to eat or parental restriction to eat (Birch, Fisher, & Davison, 2003; Carper, Fisher, & Birch, 2000). Parental pressure to eat may have the outcome that children stop using their own satiety to terminate their eating and learn instead to focus on external cues, such as the amount of food on the plate, or emotions. Also restrictive controlling practices may have the outcome that children stop using their self-regulating mechanism of food intake, for instance when parents say things like “You have had enough to eat now, you need to stop”. See Faith,

Scanlon, Birch, Francis, and Sherry (2004) for an overview of literature.

In both parental controlling approaches, there is insufficient regard for the real needs of the child; the child's awareness of hunger and satiety may get lost and the eating behaviour may become dominated by external or emotional factors. The child learns, for instance, to eat in response to food cues such as sight and smell of food and may thus become an ‘external eater’ (Rodin, 1981). There is also a risk that the child becomes an emotional eater, which entails that parental pressuring or restrictive controlling approaches on food intake may be negatively associated with the development of interoceptive awareness of a child. It may develop difficulties to recognise whether it is hungry or satiated or suffering from some other discomfort, which may result in a pattern of responding to virtually any arousal state by food intake: emotional overeating (Bruch, 1973). A third outcome may be that the child develops a restrained eating style, in the sense that it habitually suppresses feelings of hunger cognitively and eats less, which is a risk factor for overeating as well; when cognitions are undermined, for example by eating a

\*Corresponding author.

E-mail address: [vanstrien@psych.ru.nl](mailto:vanstrien@psych.ru.nl) (T. van Strien).

forbidden food, restrained eaters are likely to overeat (Herman & Polivy, 1980).

All three types of eating behaviours are considered aetiological factors for binge eating, obesity and other eating pathology (Canetti, Bachar, & Berry, 2002; Van Strien, Frijters, Bergers, & Defares, 1986), and can therefore be designated as disturbed eating behaviours. However, little is known about the prevalence of these disturbed types of eating behaviours in young children and the relationships these types have with parental control of food intake. Carper et al. (2000) studied the prevalence of external, emotional and restrained eating in 5-year-old girls. They found that 75% of 197 girls showed a high degree of external eating, one-third reported moderate levels of dietary restraint and 25% showed evidence of moderate levels of emotional eating. High degrees of external and restrained eating were also found in other studies, examining girls between 5 and 12 years old (Birch & Fisher, 1998; Francis & Birch, 2005; Hill & Franklin, 1998; Hill, Oliver, & Rogers, 1992). External eating was found to be particularly prevalent in the population of obese children (Birch et al., 2003; Fisher & Birch, 2002; Jansen et al., 2003).

To our best knowledge, there are no studies on the prevalence of emotional, external eating and dietary restraint in boys, and only the study by Carper et al. (2000) was concerned with the association of the three types of eating behaviours with parental control of food intake. This study of 5-year-old girls pointed out that parental pressure to eat was positively associated with emotional, external and restrained eating, whereas parental restriction to eat was negatively associated with external eating.

The primary aim of the present study is to elaborate upon the findings of the study of Carper et al. (2000) by examining 7- to 12-year-old boys. A sample of girls of the same age will be examined as well, to study whether the results of Carper et al. can also be replicated in an older sample of girls. Additionally, we will determine possible moderator effects of children's weight status and age. Corresponding to the findings of Carper et al., we expect that external eating is the most prevalent eating behaviour in boys and girls, followed by restrained eating and emotional eating. Furthermore, we expect to replicate the findings of Carper et al. regarding the relationships of parental control with the disturbed types of eating behaviour, by studying the parental controlling approaches as perceived by the child. Finally, we expect that overweight children show more external and restrained eating than children with a normal weight status, as found in some other studies.

## Method

### Participants

The sample consisted of 597 children, originating from seven primary schools in the eastern part of the Netherlands.

The boys ( $n = 294$ ) had a mean age of 9.8 years ( $SD = 1.4$ ). A total of 82.7% had a normal weight status, according to the children's body mass index, adapted for age and sex; weight/(height  $\times$  height) (Voedingscentrum, 2006), 16.7% was overweight and 0.7% underweight. Girls ( $n = 303$ ) had a mean age of 9.6 years ( $SD = 1.4$ ). 79.2% had a normal weight status, 19.8% was overweight and 1% was underweight. Weight was measured in light clothing and without shoes, to the nearest of 0.1 kg. Height was also measured according to standard procedures (without shoes and hair decorations), to the nearest of 0.5 cm. Data of one girl were left out of the analysis, because of many missing values.

### Procedure

Parental consent was obtained for all children. The questionnaires were filled out under supervision of a researcher. Questions could be asked to the researcher, to ensure that the children understood the meaning of each item of the questionnaires.

### Materials

#### *Children's version of the Dutch eating behaviour questionnaire (DEBQ-C)*

The DEBQ-C (Van Strien & Oosterveld, in press) consists of three scales assessing emotional, external and restrained eating behaviour. The DEBQ-C is an age-adapted 20-item version of the Dutch Eating Behaviour Questionnaire (Van Strien, 2002; Van Strien et al., 1986), and differs from the 33-item age adapted version used by Carper et al. (2000). The DEBQ-C has a three-choice response format of no (1), sometimes (2) or yes (3). An example of an emotional eating item is: "Does worrying make you feel like eating?" An example of an external eating item is: "Does walking past a candy store make you feel like eating?" An example of a restrained eating item is: "Do you intentionally eat food that helps you lose weight?" Single and multi-group confirmatory factor analyses on 769 preadolescent children aged 7–12 years showed that the fit measures for the three-factor model and the factorial invariance models with respect to sex, BMI status and age were satisfactory. Additionally, the scales showed satisfactory correlations with measures such as frequency of consumption of snacks (Van Strien & Oosterveld, in press). The internal consistency (Cronbach's alpha) for emotional, external and restrained eating in the present sample was, respectively, 0.82, 0.74 and 0.80 for boys and for girls, respectively, 0.77, 0.75 and 0.83.

#### *Children's version of the child feeding questionnaire (KCFQ)*

The KCFQ questionnaire contains two subscales: 'pressure to eat' and 'restriction' of snacks and controlling the amount of food consumed by the child. In contrast to Carper et al. (2000), we only examined the child's perspective of parental control. This, because in the study

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