Relationships between Parenting Style, Parental Verbal Eating Messages, Body Image and Intuitive Eating

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This report is submitted in partial fulfilment of the requirements of the University of Westminster for the award of BSc (Hons) Psychology.

Acknowledgements

I would like to take this opportunity to express my gratitude to the people who helped me not only to complete, but to truly enjoy my dissertation project.

First and foremost, I offer my sincerest gratitude to my parents, Rolf, Ute and Martin, without whom I would not have been able to accomplish the things I did. Thanks to you, I was able to move to London and pursue my passion. Thank you for believing in me and for trusting me.

I would like to express my deepest gratitude to my supervisor Viren Swami, who has supported me throughout my dissertation with his patience, knowledge and encouragement; despite my nightly email bombardments.

I offer my sincerest gratitude to Alan Porter, for his valuable assistance and for developing my research methods background that I needed so desperately for this project.

I would also like to convey thanks to the psychology faculty for providing me with excellent teaching staff and inspiring experiences.

Special thanks go to my fellow students, for the coffees and paracetamols, for the arguments and laughs. Vlad and Misch, you made Little Titchfield Street our home.

My deepest gratitude goes to my best friend Julie. Brudi, I love you. Ohne Dich hätte ich das nicht gepackt.

And last but not least, I would like to thank the 129 individuals who gave me an hour of their life and made this project happen. THANK YOU.

'This project is entirely my own work'

Signed: _____ Date _____

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Abstract

Objective: Obesity continues to be a major public health challenge in the UK, calling for alternative treatment approaches. Intuitive eating, an adaptive form of eating behaviour, has been put forward as a natural means of weight control with numerous physical and psychological health benefits. The primary aim of the present study was to explore relationships between parenting style, parental verbal eating messages, body image and intuitive eating.

Method: The criterion variable intuitive eating and the predictor variables parenting style, verbal eating messages, body esteem, body appreciation, drive for thinness and body dissatisfaction were assessed using online questionnaires.

Results: In the present study, males ate significantly more intuitively than females. Significant correlations between maternal parenting style, verbal eating messages, body image and intuitive eating were found. In females, a multiple regression model explained 60.8% of the variance in intuitive eating. For males, the model predicted 45% of the variance.

Discussion: Maternal care and control appear to play a role in offspring intuitive eating. Results of this study add to the evidence for links between parental eating messages, positive body image and intuitive eating. Findings highlight the importance of drive for thinness in connection with low intuitive eating scores. Study strengths and weaknesses, implications and areas for further inquiry are discussed.

Introduction

Obesity has become a major public health challenge associated with numerous health risks that may severely impact physical as well as psychological well-being. In 2011, more than half of the British adult population has been classified as overweight or obese, resulting in a financial burden of approximately £15.8 billion on the British economy (Health Survey for England, 2011). Rising at an epidemic velocity (WHO, 2011), this costly trend poses problems on an individual, public and governmental level that calls for immediate action.

Traditional Dieting

Albeit firmly embedded in Western culture as an effective and societally recognized means of weight control (Neumark-Sztainer, Rock, Thornquist, Cheskin, Neuhouser, & Barnett, 2000; Tribole & Resch, 1995), dieting has been shown to be largely ineffective in combating obesity and achieving long-term weight loss (Hill, 2004; Lowe & Timko, 2004). In spite of consistent research evidence for associations with increased food preoccupation, binge eating, eating in the absence of hunger (Polivy & Herman, 1999), low self-esteem, an overall sense of failure among dieters, body dissatisfaction, depression and elevated weight concern (Bacon, Stern, Van Loan & Keim, 2005), dieting continues to be the most common weight control strategy (Wing & Phelan, 2005). Further consequences include weight cycling, heightened fat storage potential, dysfunctional relationships with food, and an increased risk of eating disorders (Hawks, Madanat, Smith & De La Cruz, 2008; Keel, Baxter, Heatherton & Joiner, 2007; Cachelin & Regan, 2006). In the face of children as young as six years of age exhibiting signs of body dissatisfaction and weight concern (Pugliese, Lifshitz, Grad, Fort, & Marks-Katz, 1983) while one in three primary school children remain obese (Health Survey for England, 2011), alternative approaches are required urgently.

Intuitive Eating

More recently, intuitive eating (IE) has been identified as a new, promising research area for tackling the major health problem obesity. Considering the wealth of recent studies that have demonstrated effectiveness in improving physical and emotional health outcomes and encouraging healthy dietary practices (Bacon & Aphramor, 2011; Avalos & Tylka, 2006; Tylka & Wilcox, 2006; Bacon et al., 2005; Hawks, Madanat, Hawks & Harris, 2005), IE appears to be an alternative intervention

avenue worthwhile exploring. Conceptualized in three interrelated key components, IE refers to an internally-regulated eating style that, if allowed to operate properly, ensures optimal functioning through ideal nutrition. According to Tylka (2006), the ability to internally regulate food intake is based on an unconditional permission to eat whichever food is desired, physically-motivated eating rather than reliance on emotional or situational cues, and the awareness and implementation of hunger and satiety cues. Research suggests that IE abilities may be an innate ability apparent in all humans, which tends to decrease with age. Overall, men tend to be more responsive to their bodies' homeostatic signalling than females (Denny et al., 2012; Smith & Hawks, 2006).

IE has consistently been associated with numerous positive health outcomes and -contrary to traditional dieting approaches-, demonstrated long-term weight loss paralleled by enhanced self-esteem and body satisfaction (Bacon & Aphramor, 2011; Cole & Horacek, 2010; Bacon et al., 2005; Smith & Hawks, 2006; Tylka, 2006; Tylka & Wilcox, 2006; Tribole & Resch, 1996; Polivy & Herman, 1992). As restrictive dieting and coercive eating patterns are rejected, IE promotes a healthful relationship to food, ensures positive nutrition and fulfils a protective function against overeating, binge-eating and harmful forms of dieting (Tribole & Resch, 1996). In addition to physical health benefits such as lower cardiovascular risk associated with lower body mass index (BMI), lower cholesterol levels and lower blood pressure (Augustus-Horvath & Tylka, 2011; Bacon & Aphramor, 2011; Bacon et al., 2005; Hawks et al., 2005; Madden, Leong, Gray & Horwarth, 2012; Smith & Hawks, 2006; Tylka, 2006), psychological health benefits of IE may include greater unconditional self-regard, body satisfaction, low levels of depression, body appreciation (Bacon & Aphramor, 2011; Bacon et al., 2005; Smith & Hawks, 2006; Tylka, 2006; Tylka & Wilcox, 2006; Polivy & Herman, 1992), and body acceptance (Tribole & Resch, 1996). Likewise, Tylka (2006) found negative correlations between IE and body mass, eating disorder symptomatology, body image disturbance, body dissatisfaction, poor interoceptive awareness, pressure for thinness and the internalization of the thin ideal in a study of college women. The same sample produced positive correlations between IE and optimism, self-esteem, proactive coping and life satisfaction.

By demonstrating that IE can be relearned, IE-based programs such as "My body knows when" (Cole & Horacek, 2010) and "Health At Every Size" (Bacon et al., 2005) have provided longitudinal evidence for the notion that IE represents a suitable and feasible intervention avenue worthwhile pursuing. "My body knows when"

participants reported a 75% increase in listening to hunger and satiety signals and 50% reduction in emotional eating after completing the 10-week training. At 6 months follow up, however, behavioural changes were not entirely maintained, underscoring the importance of booster sessions and need for further research in this area.

Research focus

Following the adoption of IE principles in religious weight loss workshops (Halliday & Halliday, 2008) and self-help books in the 1970s (Orbach, 1978; Roth, 1982), Tribole and Resch first used the term 'Intuitive Eating' in 1995. Ten years later, a longitudinal study by Bacon et al (2005) re-introduced IE into scientific research, and imposed first steps towards a paradigm shift in researching and changing eating behaviour. Up to this point, research attempts have been undertaken mainly from a pathological stance and dietary patters have been explored through scales and measures designed to identify symptoms of disordered eating. In doing so, research remained largely ignorant to suggestions that eating behaviour might extend well beyond the presence or absence of disordered eating symptomatology and reluctant to investigate variations in normal eating behaviour that could inform the promotion of healthful eating practices (Seligman & Csikszentmihalyi, 2000).

Therefore, understanding factors that foster or undermine people's ability to recognize and respect internal hunger and satiety signals, is key to success in developing effective prevention and intervention programs and positively impacting eating behaviour. Environmental factors appear to play a major role in determining the extent to which people apply their innate ability to self-regulate food consumption. While positive body image, emotional awareness and spirituality appear to fulfil a protective function (Dittmann & Freedman, 2009), disruptive agents such as counterproductive feeding practices and sociocultural pressures have been put forward as the root cause of gradual detachment from internal to external nutrition cues (Denn et al., 2012; Scaglioni, Salvioni & Galimberti, 2008; Patrick & Nicklas, 2005). The etiology of adaptive eating behaviours and disordered eating, however, is multifactorial (Golan & Crow, 2004) and a holistic investigation lies outside of the scope of this study. Hence, this report will commence to shed light on two particular areas of influence, perceived parenting style, perceived verbal eating messages and body image.

Parenting Style

Via general parenting style and particular parenting practices, parents have a powerful influence on children's early experiences with food and eating (Savage, Fisher & Birch, 2007) and the formation, maintenance, and modification future eating behaviour (Edmunds & Hill, 1999). Parents design the eating environment at home by deciding what, how and in which context eating and feeding occurs (Ventura & Birch, 2008) and act as mediators of sociocultural norms, such as dieting beliefs. Especially during adolescence, children look to their parents for identification, gender-role models and information on body image (Rodgers & Chabrol, 2009).

Parents provide their children with a general framework that functions as a reference by which they can interpret their parents' behaviour. Conceptualized as consistent patterns of parent-child interaction across various domains of parenting, general parenting styles reflect parents' values, beliefs, attitudes and norms (Ventura & Birch, 2008). Throughout psychological research, numerous classifications of parenting style have emerged. One of the most famous conceptualisations has been put forward by Baumrind (1966). Stated in three elements of parenting, responsiveness, demandingness and control, three dimensions of parenting have been identified. According to Baumrind, parent-child interaction may be differentiated based on varying degrees of authoritarian, authoritative and permissive parenting. Extending the model to encompass four dimensions of parenting, Maccoby and Martin (1983) distinguished permissive parenting into neglectful and indulgent. Permissive parenting is low in responsiveness and demandingness, and parents allow for more independent decision-making and recreational activity and rarely use punishment. However, permissive parenting has been related to poor self-regulatory skills (McMaster & Winter, 1996). Authoritarian parenting refers to a highly directive, power-assertive style with highly demanding parents, often exhibited in the form of unquestioned dominance, and low consideration of the child's need and behaviours (Maccoby & Martin, 1983). Research has linked this parenting style with low self-esteem (Weiss et al., 1992), anxiety and withdrawal (Peter & Dumas, 1992). Authoritative parenting appears to be the most favourable parenting style across most parenting domains, fostering competence, self-esteem, good self-regulation and academic achievement (e, Dong & Zhou, 1997; Steinberg, Elmen & Mounts, 1989). Highly authoritarian parents provide clear guidance by communicating firm boundaries at the same time as exhibiting parental warmth (Maccoby & Martin, 2002; Jackson & Bee-Gates, 1994). Other conceptualizations include measures of

autocratic, authoritative, permissive and unengaged parenting (Radziszewska, Richardson, Dent & Flay,1996), care and control dimensions (PBI; p, Tulping & Brown, 1979), and revolve around the interplay of authority and responsiveness (PAQ; Buri, 1991).

To date only few studies have examined the relationship between general parenting style and eating behaviours, and research has been criticized for neglecting the potential influence of parents and siblings in eating behaviour and obesity research (American Medical Association, 2007). Research attention has been largely concentrated on relationships between parenting style and child weight, physical activity and dietary intake (Berge, Wall, Loth & Neumark-Sztainer, 2010; Van Der Horst, Kremers, Ferreira, Singh, Oenema & Brug, 2007; Van Der Horst, Oenema, A., Ferreira, I., Wendel-Vos, W., Giskes, K., Van Lenthe, F., & Brug, 2007; Kremers, Brug, de Vries & Engels, 2003; Schmitz, Lytle, Phillips, Murray, Birnbaum & Kubik, 2002) with relationships between parenting style and IE remaining unexplored.

However, studies exploring associations between child weight and dietary intake may have helped to acknowledge and understand the scope of parental influence on child eating behaviour and offer some insight into the links between perceived parenting style and IE. Authoritative parenting has been associated with many positive health behaviours (Schmitz et al., 2002) including increased fruit, vegetable and dairy intake, decreased consumption of sugar-sweetened drinks (Van Der Horst et al., 2007), low BMI and more frequent physical activity. One longitudinal study found that compared to authoritative mothers, authoritarian, permissive or neglectful mothers were more likely to have overweight children two years later. Similarly, children of highly authoritarian parents were five times more likely to be overweight (Rhee, Lumeng, Appugliese, Kaciroti & Bradley, 2006) and engage in emotional eating (Galloway, Farrow & Martz, 2010). However, it has been suggested that parenting style may be reflected in parenting practices rather than having a direct effect on offspring eating. Strengthening this notion, Joyce and Zimmer-Gembeck (2009) found that associations between parental restriction and children's disinhibited eating differed between supportive and coercive parenting.

Verbal Eating Messages

The kind of parenting practice that this study is concerned with is the communication of negative verbal eating messages. In contrast to indirect influences, which describe parents' observable behaviours such as dieting or weight concern and body

dissatisfaction, verbal eating messages directly influence the child (Fulkerson, McGuire, Neumark-Sztainer, Story, French & Perry, 2002; Vincent & McCrabe, 2000). Negative verbal eating messages involve discussion and promotion of strategies to control the child's eating and weight through teasing, criticism, emphasizing the importance of being thin and expressing concern about or dramatize their child's weight (Keery, Boutelle, van den Berg & Thompson, 2005). Eating-related verbal messages have been found more influential on weight loss behaviour than modelling (Redgers & Chabrol, 2009), and comments from parents more powerful influences that peer talk (McCabe & Ricciardelli, 2005).

Researchers argue that verbal eating messages involving pressure to eat or weight criticism may reflect global parenting goals and threats (Savage, Fisher & Birch, 2007). Historically, scarcity of food represents one of the major threats to child well-being, and may account for parents frequently encouraging children to 'clean their plate' and have a second serving. Considering epidemically rising obesity rates (WHO, 2011) however, parents may misjudge the true threat to their children's well-being. Particularly among low-income mothers, pressure to eat is common as many stick to feeding schedules rather than infant's hunger and satiety signals and often view overweight as a sign of good health and successful parenting (Hodges, Hughes, Hopkinson & Fisher, 2008). Regarding parental efforts to decrease children's food consumption, researchers have repeatedly shown that parental encouragement to diet significantly increases the likelihood of child dieting (Huon, Lim & Gunewardene, 2000; Dixon, Adair & O'Connor, 1996). Other studies found positive associations between parental weight loss discussions, weight concern (Meesters, Muris, Hoefnagels & van Gemert, 2007), drive for muscularity (Smolak & Stein, 2006), body dissatisfaction and drive for thinness (Wertheim, 2002), high risk eating behaviours (Ata, Ludden & Lally, 2007) including binging (Fulkerson et al., 2002), vomiting and laxative misuse (Hanna & Bond, 2006; Dixon et al., 1996) and eating disorders (Keery et al., 2005). Underscoring the power of verbal eating messages, Gross and Nelson (2000) found in a nonclinical sample of undergraduate females that even indirect experiences of negative comments such as weight criticism between parents were related to disordered eating in daughters. Particularly in families with anorexic family members, problematic communication patterns have been observed (Field, Camargo, Taylor, Berkey, Roberts & Colditz, 2001).

Although all family members may express verbal criticism (Kichler & Crowther, 2009), the degree to which males and females communicate and receive eating

messages appears to differ across studies. Some demonstrated stronger associations between maternal encouragement to diet and sons' eating outcomes than daughters (Meesters et al., 2007; Fulkerson et al., 2002) while another study found pressure to be thin by fathers, but not by mothers, predicted weight control behaviours in daughters (Shisslak & Crago, 2001). This may suggest that influence of verbal messages is greatest when communicated by the opposite gender parent. Gender differences concerning message recipients appear equally inconsistent. In a study by Field et al (2001), believing that thinness was valued by the father predicted constant dieting in both sons and daughters. Other studies reported females to experience more active pressure to be thin (Ata et al., 2007; Peterson, Paulson & Williams, 2007) and to be more likely to adjust their eating behaviour accordingly (Thelen & Comier, 1966).

Misinterpretation and Miscommunication

On the whole, eating behaviour appears to be a sensitive topic and in communicating eating and weight-related concerns to children and adolescents, parents often walk the tightrope. Firstly, parents often fail to judge their child's weight status correctly and run the risk of imposing inappropriate and misleading comments on their children (Skelton et al., 2006). Fulkerson et al (2002) found that almost half of boys and girls, who were encouraged to diet by their mothers, were actually normal or underweight. In an African American sample, more than two thirds of parents of at risk of being overweight or already overweight children considered their child's weight to be healthy, and more than 80% of these parents thought of their child's weight as normal (Skelton et al., 2006). Secondly, there tends to be a discrepancy between parents' and offspring's reports of verbal eating messages and feeding practices (Carper, Orlet Fisher & Birch, 2000). Carper et al (2000) found parent's and children's report of pressure to eat to be conterminous while perceptions of restriction were not correlated. Thirdly, parents frequently lack nutritional knowledge to give suitable advice even if concern is legitimate and communicated appropriately. When asking parents how they tried to control their child's weight, Myers and Vargas (2000) found that only 3.5% of parents considered reducing the amount of sugary drinks their children consumed and only 5% suggested increasing the child's level of physical activity. Hence, the actual gain of communicating eating-related messages remains questionable and an area for further inquiry.

Body Image

Compared to past parenting style and parental eating messages, body image may represent a more proximal and more present construct to the individual. As discussed earlier in this study, there is much evidence for positive relationships between body image on IE. Therefore, a variety of body image measures, namely body esteem, body appreciation, drive for thinness and body dissatisfaction, were included in this research study.

Study aims and hypotheses

The aim of the present research study was to investigate IE as a form of adaptive eating behaviour that, if allowed to function properly, represents a more healthful approach to eating and a more effective means of reducing obesity than traditional dieting. The study emphasized the influence of parents and body image as potential predictors of physically motivated food consumption. By including retrospective reports of perceived parenting style and verbal eating messages transmitted by mothers and fathers, and measures of offspring's body esteem, body appreciation, drive for thinness and body dissatisfaction, an attempt to gain a deeper understanding of factors that may foster or inhibit IE was made.

With respect to previous research findings in the field of parenting influences, body image and eating behaviour, the following hypotheses were made. Significant associations between IE and all other variables were predicted. It was hypothesized that there would be a significant difference between males' and females' IE scores. It was hypothesized that perceived parenting style would significantly relate to offspring IE. Furthermore, significant negative correlations between offspring reports of parental verbal eating messages and offspring IE were predicted. Finally, significant positive correlations were expected between offspring body image and offspring's IE.

Methods

Design

This study employed a correlational survey design. Predictor variables included three measures of parenting style, a scale assessing verbal eating messages transmitted by parents, and three kinds of body image measures: body esteem, body acceptance, and body dissatisfaction and drive for thinness. The criterion variable was intuitive eating.

Participants

The study employed a sample of predominantly white, middle class educated men and women between the ages of 20 and 82 years. One hundred twenty-nine participants, sixty-five males and sixty-four females, were drawn from a snowball sample. Participants' mean age was 31 years with a standard deviation (SD) of 14.31. The average BMI was 22.48 with a SD of 3.32, showing that on average participants were within the normal BMI range. 89% of participants reported to currently live in Europe. 88% were white. Almost half of participants (47%) were students. 22% of participants worked full-time, 12% were self-employed and 9% were part-time employed. Most participants were in full-time education (22%) or were in possession of an undergraduate (20%) or postgraduate (22%) degree. 11 and 10% respectively had a secondary school certificate or some other form of higher educational qualification. 7% had a school certificate, leaving only 2% of the entire sample without any academic qualifications. Less than 5% of the sample was separated/divorced or widowed. 53% were single, 26% were in a relationship and 16% were married. 95% of all participants completed the survey items concerned with their upbringing in reference to their biological parents.

Materials

An online questionnaire was used to obtain self-report data from the offspring participant, including the following sections.

Body Mass Index (BMI)

BMI was calculated from height and weight (kg/m2). This variable was divided into three categories: Normal weight or underweight (BMI<25), overweight (25<BMI<30), and obese (BMI>30) according to established adult classifications (Centres of Disease Control and Prevention, 2010).

Parenting style

Parenting Style Questionnaire (PSQ; Radziszewska, Richardson, Dent & Flay, 1996). The PSQ is a 1-item questionnaire assessing parenting with respect to four primary parenting styles. Depending on the extent that parents are perceived to be involved in decision-making, parenting is categorized as autocratic, authoritative, permissive, or unengaged. Initial evidence for the PSQ is provided by Radziszewska et al (1996).

Parental Authority Questionnaire (PAQ; Buri, 1989). The PAQ assesses perceived parenting style with respect to Baumrind's (1971) parental authority prototypes permissive, authoritarian, and authoritative. It was developed to produce a general retrospective report of the participant's upbringing. Participants are asked to respond to 30 items on a 5-point Likert-type scale (1=strongly disagree, 5=strongly agree). The PAQ is scored by calculating means for all three parenting dimensions. It has been described as a psychometrically sound and valid measure of Baumrind's prototypes (Buri, 1991) as rest-retest reliability, content, criterion and discriminant validity were reported to be high (Bun, Louiselle, Misukanis & Mueller, 1988).

Parental bonding instrument (PBI; Parker et al., 1979). The PBI is a retrospective measure of fundamental parental styles as perceived by the adult offspring. Two scales termed 'care' (12 items) and 'overprotection/control' (13 items) are measured in 25 items to be completed for both mothers and fathers separately. Participants decide on a 4-point scale ranging from very like to very unlike how well various attitudes and behaviours describe their mother and father separately. Responses are averaged to obtain an overall score for each dimension. The PBI has demonstrated good retest reliability, internal consistency, and validity across a variety of populations (Parker, 1989, 1990) and over extended periods of time (Murphy et al., 2010)

Verbal eating messages

Caregiver Eating Messages Scale (CEMS; Kroon Van Diest & Tylka, 2010). The CEMS is a 10-item scale measuring two dimensions of eating-related behaviour, restrictive or critical messages and pressure to eat. On a Likert-tyle scale ranging from 1=never to 6=always, participants indicate the degree to which they feel their parents or caregivers exhibited the aforementioned parenting practices. Low scores indicate low restriction of food intake and low pressure to eat. For the purpose of this

study, participants were asked to complete the CEMS for mother and father separately. The CEMS is scored by calculating the mean of both subscales. Kroon Van Diest and Tylka (2010) provided initial evidence of the CEMS's reliability and validity.

Body Image

Body Esteem Scale (BES; Franzoi & Shields, 1984). The BES conceptualizes body esteem as a multidimensional construct containing different key components for males and females. Subscales for females include Sexual Attractiveness, Weight Concern and Physical Attractiveness. Male subscales include Physical Attractiveness, Upper Body Strength and Physical Condition. Measured in 35 items, participants rate various body parts and functions on a 5-point Likert-scale (1=Have strong negative feelings for, 5=Have strong positive feelings for). Subscale scores are obtained by calculating the mean, with high scores implying greater body esteem. An overall body satisfaction score can be obtained by summing across items. The BES is factorially sound (Franzoi & Shields, 1984) and valid (Thomas & Freeman, 1990).

Body Appreciation Scale (BAS; Avalos, Tylka & Wood-Barcalow, 2005). Participants rated respect for and satisfaction with their body on 13 items on a 5-point Likert-type scale (1=Never, 5=Always). High scores reflect greater body appreciation. An overall score is obtained by calculating the mean. The BAS has been shown to possess good construct and discriminant validity (Avalos et al., 2005; Swami et al., 2008) and good test-retest reliability (Avalos et al., 2005). Item 12 has been adjusted to apply to male participants: 'I do not allow unrealistically thin images of women / unrealistically muscular images of men presented in the media to affect my attitude towards my body'.

Drive for thinness and *Body Dissatisfaction* (EDI-1 DT; Garner, Olmsted & Polivy, 1983). On the EDI-1 DT, participants respond on a 7-point Likert-type scale assessing excessive concern with dieting, preoccupation with weight and fear of gaining weight (1=Never true of me, 6=Always true of me). High scores indicate an increased focus on the thin ideal. The EDI-1 DT is scored by calculating the mean. Originally developed to assess behavioural and attitudinal traits common in bulimia and anorexia, several studies support the validity and reliability of the EDI-1 in non-clinical samples (Lee et al., 1997; Rathner et al., 1997)

Body Dissatisfaction (EDI-1 BD; Garner, 1983). The EDI-1 BD measures body dissatisfaction with respect to overall body shape and the size of specific body parts. The 9 items are rated along a 6-point scale ranging from 1=Never true of me to 6=Always true of me. High scores indicate high levels of body dissatisfaction. Responses are averaged to obtain an overall BD score.

Intuitive eating

Intuitive Eating Scale (IES; Tylka, 2006). The criterion variable intuitive eating (IE) was assessed using Tylka's 21-item IES containing three subscales that reflect the key components of IE: Unconditional permission to eat in response to hunger and appetite (12 items), eating for physical rather than emotional reasons (9 items), and reliance on internal hunger and satiety cues to determine food intake (7 items). The response format is a 5-point Likert-type scale (1=strongly disagree, 5=strongly agree) including items such as "I stop eating when I feel full (not overstuffed)". Scoring occurs through mean calculation of subscales, whose scores may be combined for an overall IE score. For the purpose of this study, overall IE scores were used. Lower scores on the IES indicate lower levels of IE. The IES has good reliability and validity (Tylka, 2006).

Procedure

Participants were recruited through the social media platform Facebook. An online event providing detailed information on the research study, ethical guidelines and a link to the online questionnaire was used to invite potential participants to the student survey. Based on snowball sampling, participants were asked to invite acquaintances, friends and family to the online event in order to recruit additional participants. No promises or payment were made. A copy of the invitation documents can be found in Appendix I. Completing the online survey took between 40 and 60 minutes. Submissions were made online. A copy of the survey can be found in Appendix II. Data collection was open for one month.

Ethical issues

The study was designed and conducted with respect to guidelines provided by the British Psychological Society (BPS). Participants were given sufficient information on the purpose and content of the study before the online questionnaire link was provided. Participants were made aware that by following the online link, they gave their full consent to study participation. Participants were informed that their

participation was voluntarily and that they could withdraw from the study at any point without giving a reason. Data was treated confidentially. The use of online questionnaires ensured full anonymity of participants. Participants were thanked for their participation and put through to a debriefing page, which can be found in Appendix III. Additionally, participants were offered to leave their email address if they wished to contact the researcher and would like to be informed about the study findings.

Results

Preliminary analysis

As shown in Table 1, both males and females were within the normal BMI range. Independent t-tests based on two-tailed hypotheses revealed significant gender differences for IE, age, CEMS restrictive/critical eating messages by mother, body appreciation, drive for thinness and body dissatisfaction. In this sample, the average female participant was approximately six years younger than the male counterpart. Males ate significantly more intuitively than females. The effect size was small to medium. Females reported significantly more restrictive/critical eating messages by mothers than males and females were significantly more dissatisfied with their bodies. The effect sizes were medium and large respectively. Gender differences in body appreciation were medium sized, males were significantly more appreciative of their body than females. Males also tended to be significantly less focussed on being thin.

Table 1. Number of participants (N), means (*M*) and standard deviations (*SD*) of study variables and results of independent t-tests (t-values, p-values, Cohen's d) assessing gender differences in study variables

	Males			Females					
	N	*M*	*SD*	*N*	*M*	*SD*	*t-value*	*p-value*	*d*
Intuitive eating	65	3.28	0.60	62	2.96	0.75	2.70	.008	0.48
Age in years	64	33.92	15.50	63	27.95	12.39	2.40	<.05	0.40
BMI	63	22.59	2.76	64	22.37	3.81	.37	.713	0.07
PAQ, permissive parenting	65	2.75	0.56	64	2.66	0.72	.79	.431	0.14
PAQ, authoritarian parenting	65	2.84	0.77	64	2.88	0.97	-.26	.796	-0.06
PAQ, authoritative parenting	65	3.31	0.70	63	3.29	0.73	.13	.899	0.03
PBI, care mother	64	1.45	0.43	62	1.46	0.49	-.14	.886	-0.01
PBI, overprotection/control mother	64	2.28	0.69	62	2.27	0.69	.09	.928	-0.01
PBI, care father	59	1.88	0.73	61	1.89	0.79	-.13	.900	0.03
PBI, overprotection/control father	58	2.56	0.78	60	2.54	0.66	.19	.853	0.03
CEMS, restr/crit messages mother	64	2.00	1.18	62	2.66	1.48	-2.77	.006	-.05
CEMS, pressure to eat mother	64	3.13	1.44	62	3.11	1.28	.10	.922	0.01
CEMS, restr/crit messages father	58	1.67	1.04	60	1.97	1.45	-1.32	.190	-.0.24
CEMS, pressure to eat father	58	2.38	1.26	60	2.38	1.40	.011	.991	0
Body Esteem, PA	65	3.78	0.63	/	/	/	/	/	/
Body Esteem, UBS	65	3.74	0.73	/	/	/	/	/	/
Body Esteem, PC (m)	65	3.68	0.81	/	/	/	/	/	/
Body Esteem, SA	/	/	/	62	3.53	0.68	/	/	/
Body Esteem, WC	/	/	/	62	2.95	0.96	/	/	/
Body Esteem, PC (f)	/	/	/	62	3.33	0.77	/	/	/
Body Appreciation	65	3.83	0.56	63	3.4	0.83	3.44	<.05	.66
Drive for thinness	65	2.69	1.26	64	3.69	1.48	-4.16	<.05	-0.73
Body Dissatisfaction	65	2.14	0.88	64	2.81	0.93	-4.20	<.05	-0.75

N= Number of participants; BMI= Body Mass Index; PAQ= Parental Authority Questionnaire; PBI= Parental Bonding Instrument; CEMS= Caregiver Eating Messages Scale; PA= Body Esteem Subscale Physical Attractiveness; UBS= Upper Body Strength; PC (m)= Physical Condition for males; SA= Sexual Attractiveness; WC= Weight Concern

Given the significant gender differences shown in Table 1, analyses were conducted separately for male and female participants. An alpha level of $p<.05$ was used.

Bivariate Correlations

Given the significant gender differences shown in Table 1, analyses were conducted separately for male and female participants. As reported in Table 2, there were significant gender differences in patterns of correlations in respect of maternal and paternal influence on sons and daughters.

There was a significant negative correlation between sons' IE and restrictive/critical messages from mothers (r=-.347, $p<.05$, N= 64) and fathers (r=-.516, $p<.05$, N=58). There were no significant correlations between sons' IE and paternal pressure to eat (-.049, $p=.358$, N=58) or maternal pressure to eat (r=.005, $p=.483$, N=64). Daughters' IE was negatively correlated with restrictive/critical messages from mothers (r=-.561, $p<.05$, N=62) and fathers (r=-.468, $p<.05$, N=60) and pressure to eat by mothers (r=-.359, $p<.05$, N=62), but not fathers (r=-.178, $p=.087$, N=60). Men who exhibited high levels of IE also expressed significantly more satisfaction with

their physical attractiveness (r=.260, p<.05, N=65), their upper body strength (r=.246, p<.05, N=65) and their physical condition (r=.390, p<.05, N=65).

Males who were dissatisfied with their body (r=-.528, p<.05, N=65) and believed in the importance of thinness were significantly less likely to trust their body to regulate food intake. IE was also found to be positively related to the level of self-esteem that women shown in regards to their sexual attractiveness (r=.389, p<.05, N=62), their weight status (r=.567, p<.05, N=62) and their physical condition (r=.451, p<.05, N=62). Women who appreciated their body were significantly equally likely to appreciate hunger and satiety cues (r=.615, p<.05, N=62). In females, expressing body dissatisfaction (r=-.440, p<.05, N=62) and focussing on thinness and weight loss (r=-.756, p<.05, N=62) correlated negatively with their level of trust in body to tell them when, what and how much to eat.

Referring to Table 1, sons and daughters who rated their mothers as highly caring and overprotective/controlling on the PBI (Buri, 1979), tended to eat significantly more intuitively than offspring who perceived their mothers as less caring and controlling.

Excluding body dissatisfaction, correlations were consistently stronger for female than for male participants (see Table 1). In females, correlations were mostly weak to moderate. Relationships between body appreciation and IE and drive for thinness and IE were strong. For males, IE, body dissatisfaction and drive for thinness were strongly correlated. Remaining correlations were weak to moderate in strength.

Table 2: Pearson correlations and significances for males (top diagonal) and females (bottom diagonal)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)(PA)	(17)(UBS)	(18) (PC)	(19)	(20)	(21)
(1) Intuitive Eating		.12	-.18	-.03	-.10	-.15	.29	-.29*	.30*	-.16	.13	-.35**	.01	-.52	-.05	.26*	.25*	.39*	.46**	-.66**	-.53**
(2) Age	.14		.40**	-.01	-.04	.06	-.13	.05	.00	.09	-.07	-.19	.03	-.13	-14	-.14	-.01	.03	.08	-.09	-.01
(3) BMI	-.24	.12		.22	.03	.08	-.08	.08	-.22	-.14	.04	.00	-.08	0.8	-.14	-.09	.03	-.01	-.01	.17	.21
(4) PSQ	.04	-.22	-.07		.25*	-.22	.08	-.17	.30*	-.21	.13	.05	-.14	-.01	.39**	.27*	.26*	.23	.18	.10	-.16
(5) PAQ, permissive	.03	-.18	-.19	.22		.23	.27*	-.48**	.49**	-.11	-.02	-.16	-.21	.05	-.06	.03	.04	-.02	.03	.03	.11
(6) PAQ,authoritarian	-.15	.14	.21	-.24	-.68**		-.47**	.64**	-.61**	.19	-.29*	-.03	.30*	-.13	.10	-.09	-.15	-.01	-.14	-.05	-.03
(7) PAQ,authoritative	.21	-.13	-.08	.08	.27*	-.47**		-.51**	.29*	-.30*	.30*	.12	-.15	.11	-.12	.30*	.30*	.23	.30*	.04	-.07
(8) PBI,care mother	-.29*	.05	.08	-.17	-.48**	.64**	-.51**		-.45**	.17	-.20	-.16	-.02	-.14	-.15	-.16	-.14	-.07	-.00	-.11	-.05
(9)PBI, o/c mother	.30*	.00	-.22	.30*	.49**	-.61**	.29*	-.45**		-.01	.44**	-.00	-.27*	.05	-.20	.17	.11	.15	.01	-.02	-.08
(10) PBI, care father	-.16	.09	-.14	-.21	-.11	.19	-.30*	.17	-.01		-.18	-.05	-.05	-.02	.09	-.22	-.31*	-.28*	-.43**	.16	.30*
(11)PBI, o/c father	.12	.03	-.05	-.04	.11	-.14	.25	-.24	.24	.09		.01	-.29*	-.18	-.27*	.19	.27*	.27*	.02	-.14	-.18
(12)CEMS, r/c mess. (mo)	-.56**	-.17	.39**	-.21	-.22	.32*	-.17	.38**	-.36**	.28	.03		.16	.53**	.12	-.15	-.20	-.29*	-.23	.52**	.45**
(13) CEMS,press. (mo)	-.36**	.19	.14	-.11	-.35**	.47**	-.26*	.36**	-.44**	.18	-.08	.32*		.25	.57**	.09	.05	.10	-.00	.00	-.11
(14)CEMS, r/c mess (fa)	-.46**	-.10	.29*	-.16	.07	.07	.02	.07	-.24	.20	.10	.51**	.26*		.40**	-.12	-.17	-.24	-.24	.49**	.40**
(15) CEMS, press. (fa)	-.18	.07	.05	-.02	-.27*	.39**	-.35**	.46**	-.20	.2	-.33*	.09	.51**	.06		-.09	-.19	-.13	-.10	.13	.14
(16) BE, (SA)	.39**	.04	-.27*	.15	.01	-.11	.19	-.16	.23	-.24	-.06	-.55**	-.17	-.42**	-.05		.80**	.82**	.56**	-.22	-.72**
(17) BE, (WC)	.57**	-.10	.26*	-.16	-.04	.17	-.15	.27*	-.24	.19	-.04	.57**	.28*	.38**	.10	-.16**		.88**	.67**	-.34**	-.68**
(18) BE (PC) (f)	.45**	.15	.61**	-.07	-.18	.20	-.15	.12	-.19	-.02	-.01	46**	.17	.11	-.04	-.59**	.63**		.70**	-.41**	-.76**
(19) Body App.	.62**	-.07	-.05	.03	-.02	.04	.08	-.07	.11	-.16	.11	-.34**	-.10	-.23	.08	.64**	-.39**	-.44**		-.46**	-.62**
(20) DT	-.76**	-.17	-.48**	.12	.11	-.11	.10	-.10	.17	-.13	-.07	-.53**	-.16	-.31*	.05	.75**	-.65**	-.84**	.67**		.66**
(21) BD	-.44**	.10	-.16	-.02	-.11	.02	.03	-.07	.07	-.13	-.10	-.30*	-.12	-.28*	-.05	.70**	-.33**	-.39**	.64**	.62**	
*p=<.05; **p=<.01 N (Males)= 58-65 N (Females)=60-62	Notes: (9) PBI, overprotection/control mother; (11) PBI. Overprotection/control father; (12) CEMS, restrictive/critical messages mother; (13) CEMS, pressure to eat mother; (14) CEMS, restrictive/critical messages father; (15) CEMS, pressure to eat father; (16) Body Esteem (Physical attractiveness for males, Sexual Attractiveness for females); (17) Body Esteem (Upper Body Strength for males, Weight Concern for females; (18) Body Esteem (Physical Condition for both males and females); (19) Body Appreciation (20) Drive for Thinness; (21) Body Dissatisfaction																				

Multiple regressions

Using significant correlations from the correlation matrix (see Table 2), a standard multiple regression was performed between intuitive eating as the criterion variable and mothers' care (PBI) and mothers' overprotection/control (PBI), restrictive/critical eating messages by mother (CEMS), physical attractiveness (BES), upper body strength (BES), body appreciation, drive for thinness (EDI-1) and body dissatisfaction (EDI-1) as predictor variables for males (see Table 3).

Using the enter method, a significant model emerged for male participants: F(9,54)=6.728, p<.05. The model explained 45% of the variance in IE scores in males. The effect size was large (f squared=1.12). Referring to Table 5, drive for thinness and body esteem upper body strength significantly predicted IE scores.

Table 3: Regression analysis for male participants showing beta values, *t*-values and significances

	β	*t*-value	*p*-value
PBI Care mother	-.11	-1.15	.257
PBI Overprotect./Control mother	.05	.48	.634
CEMS, Restr./crit. messages mother	.00	.03	.980
Body esteem PA	.09	.42	.680
Body esteem UBS	-.48	-2.27	<.05
Body esteem PC(m)	.28	1.19	.241
Body Appreciation	.25	1.77	.082
Drive for thinness	-.54	-3.47	<.05
Body dissatisfaction	-.08	-.383	.704

As reported in Table 4, for females, predictor variables included mother's care (PBI), mother's overprotection/control (PBI), restrictive/critical eating messages by mother (CEMS), pressure to eat by mother (CEMS), restrictive/critical eating messages by father (CEMS), body appreciation (BAS), sexual attractiveness (BES), weight concern (BES), physical condition (BES), drive for thinness (EDI-1) and body dissatisfaction (EDI-1).

Using the enter method, a significant model emerged for female participants: F(11, 48)=9.33, *p*<.05. For female participants, the model explained 60.8% of the variance in IE scores. The effect size was large (f squared=2.13). As presented in Table 6, the effect was entirely explained in terms of drive for thinness.

Table 4: Regression analysis for female participants showing beta values, *t*-values and significances

	β	*t*-value	*p*-value
PBI, care mother	-.051	-.51	.612
PBI, overprot./contr. mother	.048	.49	.630
CEMS, restr./crit. messages mother	-.070	-.57	.572
CEMS, pressure to eat mother	-.089	-.91	.363
CEMS, restr./crit. messages father	-.054	-.50	.620
Body Appreciation	.130	.84	.406
Body esteem, SA	.065	-.52	.605
Body esteem, WC	.128	.56	.579
Body esteem, PC(f)	.153	1.19	.240
Drive for thinness	-.602	-4.78	<.05
Body dissatisfaction	.226	1.25	.216

The two-tailed hypothesis predicting significant gender differences in IE scores was accepted. The two-tailed hypothesis predicting significant correlations between parenting styles and IE, was accepted for maternal care and overprotection/control, but rejected for all remaining parenting dimensions. Autocratic, authoritarian, permissive and unengaged parenting dimensions as measured by the PSQ and for permissive, authoritarian and authoritative parenting styles featured in the PAQ were not significantly correlated with IE. The one tailed hypothesis suggesting a negative relationship between parental verbal eating messages and offspring IE was accepted for sons with respect to maternal and paternal restrictive/critical messages, and for daughters' IE as to maternal and paternal restrictive/critical messages and maternal pressure to eat. The one-tailed hypothesis was rejected for sons' IE and paternal and maternal pressure and for daughters' IE and paternal pressure to eat. The one-tailed hypothesis predicting positive relationships between body image and IE was accepted. As hypothesized, females and males' body esteem and body appreciation was positively related with IE while drive for thinness and body dissatisfaction were negatively related to IE.

Discussion

The present study investigated associations between perceived parenting style, parental verbal eating messages, body image and IE. In exploring links between these psychosocial factors and IE, this study dissociated itself from pathological research and emphasizes the need to focus on adaptive behaviours that may enhance and maintain overall health. It was hypothesized that males and females would differ significantly with respect to IE scores. Furthermore, correlations between parenting style and offspring IE were expected. It was hypothesized that parental verbal eating messages would be

negatively related to offspring IE, while the association between body image and IE would be positive.

The results provided some support for these hypotheses. Findings strengthen the notion that males tend to eat more intuitively than females (Denny et al., 2012; Smith & Hawks, 2006). In both sons and daughters, maternal control was positively associated with IE whereas maternal care was negatively related to IE. Restrictive comments by mothers and fathers were inversely correlated with sons' and daughters' IE. Pressure to eat by mothers was negatively correlated to IE in daughters. A positive body image was associated with high levels of IE in male and female offspring.

Parental influences

Current results add support to studies that found relationships between parenting and eating behavioural outcomes in offspring (Berge et al., 2010; Van der Horst et al., 2010, 2007; Savage et al., 2007; Edmunds & Hill, 1999). The study specifies research in this area by demonstrating links between perceived parenting style, parental verbal eating messages and adults' intuitive eating. Overall, findings suggest that maternal influences may play a stronger role in the field of intuitive eating than paternal input. In contrast to studies that have emphasized opposite-sex dyads (Meesters et al., 2007; Fulkerson et al., 2002; Shisslak & Crago, 2001), findings demonstrate that relationships between maternal care and control and offspring eating outcomes were equally strong for sons and daughters

The increased amount and strength of correlations between mothers and offspring intuitive eating may be explained by mothers' traditional role of child carers and feeders. Despite recent changes in family constellations with increasing numbers of fathers staying home to raise the children and mothers working full-time (Lewis, 2001), mothers tend to dominate parenting particularly during the early years of life (Savage et al., 2007).

Parenting style

The study expands the limited body of research on relationships between general parenting style and offspring eating outcomes (American Medical Association, 2007).

Findings highlight the importance of maternal control in connection with higher levels of intuitive eating and bring attention to the role of maternal care in connection with lower levels of intuitive eating. Results indicate that maternal overprotection/control may fulfil a protective function against unhealthy eating habits such as overeating and binge eating,

whereas maternal care appears to promote detachment from internal hunger and satiety signals.

One possible explanation is that instead of interfering with the child's internal regulatory mechanism, maternal control may enable children to resist external prompts for food intake. By establishing greater control over emotional and situational cues in children, maternal control may enhance children's ability to attend to internal hunger and satiety signals. The inversed relationship between maternal care and intuitive eating may be explained in terms of maternal interpretations of 'care'. Mothers may interpret caring for a child in terms of feeding the child, and especially among low income mothers, the belief that heavy babies are happy and healthy babies is common (Hodges et al., 2008).

In regards to previous research, high parental control and low parental care, as related to high levels of IE in the current study, correspond best with Baumrind's authoritarian parenting style (1966). As this parenting style has been mainly associated with offspring emotional eating and overweight status (Galloway et al., 2010), findings of the present study contradict most past research (Peter & Dumas, 1992; Weiss et al., 1992). However, the PBI (Tulping & Brown, 1979) conceptualizes care and control as separate constructs while Baumrind's research (1966) combines scales to form several distinct parenting styles. Examining current findings with reference to authoritative and permissive parenting dimensions may offer further insight. Authoritative parenting, which has consistently shown to be a highly beneficial parenting style across a number of parenting domains (Chen et al. 1997; Steinberg et al., 1989) and conductive to healthful eating patterns (Schmitz et al., 2002), entails high parental demandingness, clear expectations and parental control (Maccoby & Martin, 1983). These features may correspond to the PBI's control dimension (Tulping & Brown, 1979), and explain its positive correlation to IE. Authoritative parenting is also characterized by high responsiveness of the child's needs (Maccoby & Martin, 1983), which conflicts with the current findings of negative links between maternal care and IE. In regards to the PBI's care dimension (Tulping & Brown, 1979), present findings appear congruent with previously reported correlations with permissive parenting. Defined a lack of control as well as care, permissive parenting has been linked to poor self-regulatory skills (McMaster&Winter, 1996).

When interpreting these findings, it must be noted that significant correlations were neither found for parenting dimensions included in the PSQ (Radziszewska, Richardson, Dent & Flay,1996) nor parenting styles included in the PAQ (Buri, 1991). This may either point to parenting style as a rather void factor in regards to offspring IE levels, or to methodological differences in the assessment. Both measures asked participants to complete items

relating to both parents, which assumes that mothers and fathers represent one unit with a shared parenting approach and neglects individual differences between parents concerning their parenting approach. This approach is not recommended for future research; however, participant burden in terms of survey length must be taken into account.

Parental Verbal Eating Messages

Previous research has emphasized the role of negative verbal eating messages in the development of disturbed eating patterns and dysfunctional relationships with food (Ata et al., 2007; Keery et al., 2005; Fulkerson et al., 2002) and the utilization of harmful weight loss strategies (Hanna & Bind, 2006; Dixon et al., 1996). Previous research has also proposed gender differences in correlations between parental verbal eating messages and eating behaviour in offspring (Meesters et al., 2007; Fulkerson et al., 2002; Shisslak & Crago, 2001).

The present study provides correlational evidence for these findings and brings attention to mothers as communicators and daughters as recipients. In contrast to studies demonstrating that sons were more affected by maternal weight talk than daughters (Meesters et al., 2007; Fulkerson et al., 2002), the present study found more correlations between mothers and daughters. It may be the case that daughters are more aware of, more vulnerable to, or may receive more verbal eating messages, or that sons' eating behaviour is less likely to elicit parental comments.

Gender differences may also relate to gender-specific identification, modelling and referencing processes. With reference to mother-daughter dyads for example, it has been hypothesized that mothers frequently function as role models for body image and dieting behaviour and impact daughters through their own expression of weight concern and pursuit of the thin ideal (Moreno & Thelen, 1993).

Body Image

The results of this study lend further support to relationships between positive body image and adaptive eating practices (Bacon & Aphramor, 2011; Bacon et al., 2005; Smith & Hawks, 2006; Tylka, 2006; Tylka & Wilcox, 2006; Tribole & Resch, 1996; Polivy & Herman, 1992). Males and females with low levels of thinness idealization and body dissatisfaction but high levels of body appreciation and body esteem also exhibited high levels of IE.

The study provided a good model for males' and females' intuitive eating behaviour, explaining 45% of the variance in intuitive eating in males and 60.8% in females. In males,

drive for thinness and body esteem regarding upper body strength emerged as the sole predictors of IE. In females, hunger and satiety-based eating was explained in terms of drive for thinness.

Body appreciation and body esteem appear to fulfil a protective function whereas body dissatisfaction and an overemphasis on the thinness ideal may represent risk factors for IE. However, longitudinal and experimental studies are needed to confirm assumptions regarding temporality and causality.

Bidirectionality and Interrelations

Eating behaviour is shaped by a multitude of interrelated factors (Gross & Nelson, 2000). A review of sixty-six articles concerned with relationships between parenting, child eating and child weight concluded that there was substantial causal evidence that parenting affects child eating, and much correlational evidence that children's eating patterns and weight status impact parenting (Ventura & Birch, 2008).

Considering relationships between verbal eating messages and body image (Meesters, Muris, Hoefnagels & van Gemert, 2007; Smolak & Stein, 2006; Wertheim, 2002), body image and disturbed eating (Ata, Ludden & Lally, 2007; Hanna & Bond, 2006; Keery et al., 2005; Fulkerson et al., 2002; Dixon et al., 1996), and body image and IE (Bacon & Aphramor, 2011; Cole & Horacek, 2010; Bacon et al., 2005; Smith & Hawks, 2006; Tylka, 2006; Tylka & Wilcox, 2006; Tribole & Resch, 1996; Polivy & Herman, 1992), teasing out cause and effect becomes a challenging task that lies well beyond the competence of this correlational study. The relationship is thought to be of bidirectional nature, and parenting style, verbal eating messages and body image may be causes as well as results of IE.

As illustrated in Striegel-Moore and Cachelin's dual pathway model (1999), it may be that neither parenting style nor parental eating messages have a direct influence on eating behaviour. Striegel-Moore et al. (1999) proposes two pathways that give rise to disordered eating, in other words, an absolute detachment from hunger and satiety signals. According to the interpersonal vulnerability pathway, inadequate parenting may lead to a disturbed self-image and poor social functioning, which in turn triggers feelings of inefficiency and failure. This may be expressed in body image disturbances and disordered eating. The second pathway, restraint, refers to the effect of sociocultural pressures to comply with societal body shape and size norms. In response to the perceived discrepancy between unrealistically thin body ideals and the actual self, the individual suffers body dissatisfaction and might turn to unhealthy eating practices and harmful dieting. Striegel et

al.'s model (1999) underlines the complexity surrounding eating behaviour, and highlights the need for further research assessing temporality and causality.

Study strengths and weaknesses

Study strengths and limitations should be taken into account when interpreting findings. Firstly, the present research study employed a correlational design, which neither allowed for assumptions regarding temporality as possible in longitudinal studies nor for assessment of causality as attainable from experimental designs. Secondly, the assessment of all variables relied on self-report measures and was not supported by any objective measurements. It may have been the case that participants lacked sufficient introspection to provide accurate information on eating patterns and motivators. Thirdly, the use of retrospective reports of parenting style and verbal eating messages might pose an issue in so far as participants' recollections of parenting style and practice might have been distorted by time and the current child-parents relationship. Additionally, items at the beginning of the survey may have had an influence on participants' responses to the following questions.

Compared to existing research in this area which has been primarily conducted in small female samples in limited populations within weight loss programs (Bacon et al., 2005) or single universities (Avalos & Tylka, 2006), the present sample drew participants from a wide range of backgrounds and a broad range of adult age groups. The male-female ratio was balanced. Due to the recruitment method, the sample was not limited to one institution, but internet access was required for participation. Additionally, most recruitment occurred through the social media platform Facebook. The relatively small sample of 129 participants consisted predominantly of white, educated individuals from a middleclass background. Findings of the present study are not generalizable to age groups excluded from this sample, particularly children and adolescents under the age of 20.

The exclusive use of standardized, reliable and valid scales that have been repeatedly used and tested in this particular research field represents a study strength. In contrast to other studies (Denny et al., 2012) the present study incorporated the entire IE scale (Tylka, 2006). Two subscales originally designed for identifying symptoms of eating disorders and associated with pathological research were used. One item on the validated drive for thinness EDI-1 (Garner et al., 1983) subscale was adapted to meet requirements of the current study and allow for assessment of male participants. Furthermore, using four different measures of body image and three measures of parenting style allowed for a detailed analysis of relationships to intuitive eating. Collecting information about one

parenting style measure and verbal eating measures separately represents another study strength, as it disclosed valuable information regarding gender differences. This approach may have been useful for all parenting measures, but was rejected in consideration of participant burden.

Findings are limited to offspring accounts of parenting style and practice and obtaining data from multiple sources may have increased the validity of the data collected. First-hand accounts by mothers and fathers may appear preferable, but considering inconsistencies between parental and offspring reports of communicated information that have been demonstrated in the past (Carper et al., 2000), these may refer to entirely different constructs. The focus of this study is the exploration of predictors of offspring IE, hence, offspring' perceptions are prioritized.

Implications

Findings of the present study are offered only as indicators of potential implications, and should be treated with caution. Further evidence must be provided by future research involving longitudinal and experimental designs.

In exploring factors that may inhibit or foster intuitive eating, this study provides preliminary implications for healthcare professionals, parents, and individuals in terms of developing and optimizing IE-based interventions, informing parents on effective ways to increase their children's nutritional well-being and advising individuals on healthful eating behaviour and weight loss strategies. Therefore, the present study may be a first starting point to inform the development of IE-based interventions that help to manage the growing prevalence of obesity among children and adults (WHO, 2011).

At the heart of any IE-based intervention, whether on an individuals, public or clinical level, lies the attempt to strengthen trust in the body's internal regulatory mechanism to guide food intake successfully, to become aware of internal hunger and satiety signals and to let go of restrictive eating patterns that shift the attention from internal to external cues to guide eating. In exploring correlations with and predictors of intuitive eating, this study offers some insight into the relative contribution that parental factors and body image might make in this process.

Findings suggest that parents play an important role in the extent by which their adult offspring eats intuitively. Therefore, effective interventions should consider parental influences and if possible, involve mothers and fathers in the treatment. In terms of preventive measures, the findings suggest that much can be gained from informing

parents about the nature and benefits of intuitive eating. Therefore, parents may be targeted in preventions aiming to support healthful eating in children by preserving and fostering IE from an early age. Parents should be made aware of the negative impact that verbal criticism may have on children's internal regulatory mechanism, and the consequences that this disruption may have. This relationship was stronger between mothers and daughters, suggesting that mother-daughter dyads present a particularly important target group. Furthermore, parents should be made aware that daughters may be more vulnerable to weight talk than sons, and parents should consider strategies to control their child's diet carefully

Rather than making negative comments, which appear counterproductive at best and harmful at worse, parents should be advised on ways to strengthen their child's body esteem and appreciation. Drive for thinness appears to be a key concept in IE in both males and females, hence, one possible intervention may be to discussing the promotion of unrealistic body images in the media in order to de-emphasizing thinness. Enhancing body esteem and reducing body dissatisfaction may be implemented in the adult population as well, where parental involvement is less likely. Referring to Striegel-Moore and Cachelin's dual pathway model (1999), disordered eating may be initiated by feelings of ineffectiveness and failure, hence, techniques aimed at teaching assertiveness and developing social competence may be useful in enhancing self-worth and improving IE abilities.

Further Research

Despite growing interest, IE research is still in its infancy. IE represents an approach to eating that, although thought to be an innate and natural mechanism (Denny et al., 2012; Smith & Hawks, 2006), contradicts current sociocultural beliefs regarding weight control and thinness idealization (Neumark-Sztainer et al., 2000; Tribole & Resch, 1995). Recent health enhancement programs have successfully implemented IE-principles (Cole & Horacek, 2010; Bacon et al., 2005), but much more research is required in order to establish and justify IE as a standard component of weight loss programs, nutrition counselling and perhaps even eating disorder treatment.

First and foremost, more research in required to fully understand IE and its underlying mechanisms. There is much dispute to whether IE and disordered eating represent opposite poles of the same construct or refer to entirely separate concepts or whether they are entirely separate concepts (Tylka & Wilcox, 2006). Furthermore, it might be possible that critical periods or thresholds exist after which IE may not be acquired or re-learned,

both of which has important implications for the applicability of IE in intervention and clinical contexts.

Furthermore, eating behaviour is a complex function that may not be limited to the satisfaction of physical hunger and satiety signals. In exploring influences of parenting and body image on IE, the scope of this study is limited to a fraction of the influences that may shape, maintain and impact eating behaviour. Future research should incorporate genetic and biological factors, peer and media influences, environmental components and psychological states such as stress and depression. In order to gain a holistic understanding of the factors determining IE, results from qualitative and quantitative studies, longitudinal and experimental research, and evaluations of IE-based interventions should be considered. Ideally, future studies exploring parent-child interactions and their relative impact on offspring IE, should examine parents' and offspring' reports over a prolonged period of time and take additional parenting practices as well as children's food environments into account.

Findings of the present study highlight the role of parents, in particular mothers, in connection to IE. However, sons and fathers represent a promising research population for several reasons. Firstly, fathers that have gone largely unnoticed in the current study and efforts must be made to capture paternal input. Secondly, increasing research focus on men might help to identify factors that account for consistent male superiority in regards to IE. Additionally, understanding factors that contribute to the strength of mother-daughter dyads might be useful in utilizing mothers more effectively partners in interventions. In terms of verbal eating messages, particularly qualitative research may be helpful to increase the understanding of the nature of these messages by taking frequency, intensity and phrasing into account. Effects of positive verbal eating messages should be explored. In both male and female participants, drive for thinness emerged as an important predictor of IE. Further investigation of links between parental influences, verbal eating messages and drive for thinness, is required to comprehend the potential use in family interventions and advice parents and health professionals how to decrease thinness idealization and improve eating behaviour.

In conclusion, this study provided evidence for links between parenting style, verbal eating messages, body image and IE. Maternal influences and body image appeared particularly influential, suggesting that both factors closely relate to the extent that adults trust their body to successfully regulate food consumption. Highlighting the role of sociocultural pressures, drive for thinness emerged as an important predictor in males' and females' IE. The main task for further research in the field of IE will be to detangle relationships

between these variables, and to explore additional factors that impact peoples' ability to respond to internal hunger and satiety signals. Finally, the study provided directions for further research that may facilitate incorporation of IE principles in interventions successfully reducing obesity.

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Contents: Appendices

Appendix VI: SPSS Output

Appendix II: Research Participation Invitation/Consent Form

As part of my psychology degree, I need to conduct a research study. The present study will be the topic of my third year dissertation project. If you can, please spare a few minutes to participate in this survey.

This third year dissertation project is being conducted by Laura von Nordheim as part of a BSc (Hons) Psychology degree course at the University of Westminster. The project is being supervised by Project Supervisor Viren Swami in the Psychology Department and fulfils the generic limitations necessary for approval by the Departmental Ethics Committee.

The research project is explores the effect of parenting style, parental eating messages and body image on intuitive eating.

If you agree to participate in this research project, you will be asked to complete an online questionnaire in four sections. You will be asked to provide demographic information such as your age and gender, but not your name or any other details that could identify you as a participant. You will also be questioned about the way you think your parents raised you, about the way you feel about your body, and about your eating habits. Completing the questionnaire should take approximately 40 minutes. Please be aware that..

- Participation is entirely voluntary, and you have the right to withdraw at any time without having to give a reason.
- If there are any questions you do not wish to answer, you do not have to answer them.
- Your responses will be treated with full confidentiality. No individuals will be identifiable from a report of the research.
- You will be invited to access information upon completion of this survey, explaining in more detail what this research project is about. Please do not read the debriefing information before completing the questionnaire.
- If you would like to be informed about the outcome of this study, you can leave your email address and you will be sent a copy of the report.
- If you need to contact the researcher after participating, please send an email to

Laura.von_nordheim@my.westminster.ac.uk (Student Researcher) or

V.Swami@westminster.ac.uk (Project Supervisor)

If you agree to participate please follow the link below. Please complete the survey and submit.

If you do not wish to take part please ignore this message.

It would be highly appreciated if you could forward this invitation to anyone you would consider suitable and interested in participating.

https://docs.google.com/spreadsheet/viewform?formkey=dGpkd0xJeTNZM3NYcWNMN25FbTRYWEE6MQ

Appendix II: Survey

Parental Influence on Intuitive Eating

This questionnaire is designed to explore the influence that parents may have on the eating behavior of their children. You are kindly asked to answer all the questions provided, but please keep in mind that your participation is entirely voluntary and anonymous, you do not have to answer any questions you do not wish to answer, the data collected will be treated entirely confidential and you can withdraw from the study at any point. After completing the questionnaire, you will be provided with much more background information explaining the implications of this research study.

Section 1: Demographic Information

Please answer the following questions about yourself.

What gender are you?

- ⌈ male
- ⌈ female

How old are you?

Where do you currently live?Please chose from the continents below where you currently live.

- ⌈ Europe
- ⌈ North America
- ⌈ South America
- ⌈ Asia
- ⌈ Australia
- ⌈ Africa
- ⌈ Antarctica

What is your ethnicity?

- ⌈ White (White British, White American, White European, etc)
- ⌈ Black (Black Caribbean, Black African, Black American, etc)
- ⌈ Hispanic Origin (Spanish, Latin American, etc)
- ⌈ Asian (Indian, Pakistani, Bangladeshi, etc)
- ⌈ Chinese
- ⌈ Mixed heritage (White and Black Caribbean, White and Asian, etc)

Which of the following qualifications do you have?

- ⌈ No academic qualifications
- ⌈ School certificate
- ⌈ Secondary school certificate
- ⌈ Still in full-time education
- ⌈ Undergraduate degree (BA/BSc)

- ⌈ Postgraduate degree
- ⌈ Other higher qualification

What is your occupational status?

- ⌈ Part-time employment
- ⌈ Full-time employment
- ⌈ Self-employed
- ⌈ Home maker
- ⌈ Student
- ⌈ Unemployed
- ⌈ Retired
- ⌈ Unable to work/disabled

What is your marital status?

- ⌈ Single
- ⌈ In a relationship
- ⌈ Married
- ⌈ Separated/Divorced
- ⌈ Widowed
- ⌈ Other

What is your weight (in kg)?

What is your height (in cm)?

Which of the following best describes your MOTHER?In the following sections of this questionnaire, you will be asked to provide information about your primarily caregivers, parents, mother and father. Please help define the term 'mother' and 'father'.

- ⌈ biological parent
- ⌈ step-parent
- ⌈ partner's partner
- ⌈ adoptive parent
- ⌈ foster parent
- ⌈ other adult relative

How do you perceive your mother's body size and shape?

- ⌈ small frame
- ⌈ medium frame
- ⌈ large frame

How do you perceive your mother's body weight?

- ⌈ underweight

- ⌈ slightly underweight
- ⌈ normal weight
- ⌈ slightly overweight
- ⌈ overweight

Which of the following best describes your FATHER?In the following sections of this questionnaire, you will be asked to provide information about your primarily caregivers, parents, mother and father. Please help define the term 'mother' and 'father'.

- ⌈ biological parent
- ⌈ step-parent
- ⌈ partner's partner
- ⌈ adoptive parent
- ⌈ foster parent
- ⌈ other adult relative

How do you perceive your father's body size and shape?

- ⌈ small frame
- ⌈ medium frame
- ⌈ large frame

How do you perceive your father's body weight?

- ⌈ underweight
- ⌈ slightly underweight
- ⌈ normal weight
- ⌈ slightly overweight
- ⌈ overweight

What is your socio-economic status?Think of the scale below as representing where people stand in your country. At the left side of the scale are people who are worst off – who have the least money, least education, and the least respected jobs or no job. At the right side of the scale are people who are best off – those who have the most money, the most education, and the most respected jobs. The further you are to the left of the scale, the closer you are to the people at the very bottom. The further you are to the right, the closer you are to people at the very top. Where would you place yourself on this scale? Please place an `x' on the dot where you think you stand at this time in your life, relative to other people in your country of residence.

1 2 3 4 5 6 7 8 9 10

bottom end of the socio-economic ladder

top end of the socio-economic ladder

Section 2: Perceived Parenting Style

2.1 This section of the questionnaire is designed to explore the way you feel your parents raised you. If you do not live with your parents anymore, please answer the questions retrospectively.

In general, when it comes to issues such as spending money, free-time leisure activities, and how late you can stay out, which of these statements most closely describes how you and your parents make decisions?

- ⌈ My parents generally make these decisions.
- ⌈ My parents ask my opinion but generally make the decisions.
- ⌈ I ask my parents' opinions but generally make the decisions.
- ⌈ I generally make the decisions.

2.2 For each of the following statements, tick the number (1=strongly disagree, 5=strongly agree) that best describes how that statement applies to you and your parents. Try to read and think about each statement as it applies to you and your parents during your years of growing up at home. There are no right or wrong answers, so don't spend a lot of time on any one item. Be sure not to omit any items. If your parents were separated or divorced before you reached age 12, think about the parent with whom you spent the most. 1=strongly disagree; 2=disagree; 3=neither agree nor disagree; 4=agree; 5=strongly agree

While I was growing up my parents felt that in a well-run home the children should have their way in the family as often as parents do.

	1	2	3	4	5	
strongly disagree						strongly agree

Even if their children didn't agree with them, my parent felt that it was for our own good if we were forced to conform to what they thought was right.

	1	2	3	4	5	
strongly disagree						strongly agree

Whenever my parents told me to do something as I was growing up, they expected me to do it immediately without asking any questions.

	1	2	3	4	5	
strongly disagree						strongly agree

As I was growing up, once family policy had been established, my parents discussed the reasoning behind the policy with the children in the family.

1 2 3 4 5

strongly disagree strongly agree

My parents have always encouraged verbal give-and-take whenever I felt that family rules and restrictions were unreasonable.

1 2 3 4 5

strongly disagree strongly agree

My parents have always that what children need is to be free to make up their own minds and to do what they want to do, even if this does not agree with what their parents might want.

1 2 3 4 5

strongly disagree strongly agree

As I was growing up my parents did not allow me to question any decision they had made.

1 2 3 4 5

strongly disagree strongly agree

As I was growing up my parents directed the activities and decisions of the children in the family through reasoning and discipline.

1 2 3 4 5

strongly disagree strongly agree

My parents have always felt that more force should be used by parents in order to get their children to behave the way they are supposed to.

1 2 3 4 5

strongly disagree strongly agree

As I was growing up my parents did not feel that I needed to obey rules and regulations of behaviour simply because someone in authority had established them.

1 2 3 4 5

strongly disagree strongly agree

As I was growing up I knew what my parents expected of me in my family, but I also felt free to discuss those expectations with my parents when I felt that they were unreasonable.

1 2 3 4 5

strongly disagree strongly agree

My parents felt that wise parents should teach their children early just who is the boss in the family.

1 2 3 4 5

strongly disagree strongly agree

As I was growing up, my parents seldom gave me expectations and guidelines for my behaviour.

1 2 3 4 5

strongly disagree strongly agree

Most of the time as I was growing up my parents did what the children in the family wanted when making family decisions.

1 2 3 4 5

strongly disagree strongly agree

As the children in my family were growing up, my parents consistently gave us direction and guidance in rational and objective ways.

1 2 3 4 5

strongly disagree strongly agree

As I was growing up my parents would get very upset if I tried to disagree with them.

1 2 3 4 5

strongly disagree strongly agree

My parents feel that most problems in society would be solved if parents would not restrict their children's activities, decisions, and desires as they are growing up.

1 2 3 4 5

strongly disagree strongly agree

As I was growing up my parents let me know what behaviour they expected of me, and if I didn't meet those expectations, they punished me.

1 2 3 4 5

strongly disagree strongly agree

As I was growing up my parents my parents allowed me to decide most things for myself without a lot of direction from them.

1 2 3 4 5

strongly disagree strongly agree

As I was growing up my parents took the children's opinions into consideration when making family decisions but they would not decide something simply because the children wanted it.

1 2 3 4 5

strongly disagree strongly agree

My parents did not view themselves as responsible for directing and guiding my behaviour as I was growing up.

1 2 3 4 5

strongly disagree | strongly agree

My parents had clear standards of behaviour for the children in our home I was growing up, but they were willing to adjust those standards to the needs of each of the individual children in the family.

1 2 3 4 5

strongly disagree | strongly agree

My parents gave me direction for my behaviour and activities as I was growing up and they expected me to follow their direction, but they were always willing to listen to my concerns and to discuss that direction with me.

1 2 3 4 5

strongly disagree | strongly agree

As I was growing up my parents allowed me to form my own point of view on family matters and they generally allowed me to decide for myself what I was going to do.

1 2 3 4 5

strongly disagree | strongly agree

My parents have always felt that most problems in society would be solved if we could get parents to strictly and forcibly deal with their children when they don't do what they are supposed to as they are growing up.

1 2 3 4 5

strongly disagree | strongly agree

As I was growing up my parents often told me exactly what they wanted me to do and how they expected me to do it.

1 2 3 4 5

strongly disagree | strongly agree

As I was growing up my parents gave me clear direction for my behaviours and activities, but they were also understanding when I disagreed with them.

1 2 3 4 5

strongly disagree strongly agree

As I was growing up my parents did not direct the behaviours, activities, and desires of the children in the family.

1 2 3 4 5

strongly disagree strongly agree

As I was growing up I knew what my parents expected of me in the family and they insisted that I conform to those expectations simply out of respect for their authority.

1 2 3 4 5

strongly disagree strongly agree

As I was growing up, if my parents made a decision in the family that hurt me, they were willing to discuss that decision with me and to admit it if they had made a mistake.

1 2 3 4 5

strongly disagree strongly agree

2.3 This questionnaire lists various attitudes and beliefs of parents. You will be asked to fill in this questionnaire in regards to your mother and your father. For the following attitudes and beliefs, please tick the number (1=very like to 4=very unlike) that best describes how much that attitude or belief matches to your MOTHER as you remember her in your first 16 years. 1=very like; 2=moderately like; 3=moderately unlike; 4=very unlike

Spoke to me in a warm and friendly voice

1 2 3 4

very like very unlike

Did not help me as much as I needed

1 2 3 4

very like very unlike

Let me do those things I liked doing

1 2 3 4

very like very unlike

Seemed emotionally cold to me

1 2 3 4

very like very unlike

Appeared to understand my problems and worries

1 2 3 4

very like very unlike

Was affectionate to me

1 2 3 4

very like very unlike

Liked me to make my own decisions

1 2 3 4

very like very unlike

Did not want me to grow up

1 2 3 4

very like very unlike

Tried to control everything I did

1 2 3 4

very like very unlike

Invaded my privacy

1 2 3 4

very like very unlike

Enjoyed talking things over with me

1 2 3 4

very like very unlike

Frequently smiled at me

1 2 3 4

very like very unlike

Tended to baby me

1 2 3 4

very like very unlike

Did not seem to understand what I needed or wanted

1 2 3 4

very like very unlike

Let me decide things for myself

1 2 3 4

very like very unlike

Made me feel I was not wanted

1 2 3 4

very like very unlike

Could make me feel better when I was upset

1 2 3 4

very like very unlike

Did not talk with me very much

1 2 3 4

very like very unlike

Tried to make me feel dependent on her

1 2 3 4

very like very unlike

Felt I could not look after myself unless she was around

1 2 3 4

very like very unlike

Gave me as much freedom as I wanted

1 2 3 4

very like very unlike

Let me go out as often as I wanted

1 2 3 4

very like very unlike

Was overprotective of me

1 2 3 4

very like very unlike

Did not praise me

1 2 3 4

very like very unlike

Let me dress in any way I pleased

1 2 3 4

very like very unlike

2.4 Please answer the same questions in regards to your FATHER. For the following attitudes and beliefs, please tick the number (1=very like to 4=very unlike) that best describes how much that attitude or belief matches to your FATHER as you remember her in your first 16 years. 1=very like; 2=moderately like; 3=moderately unlike; 4=very unlike

Spoke to me in a warm and friendly voice

1 2 3 4

very like very unlike

Did not help me as much as I needed

1 2 3 4

very like very unlike

Let me do those things I liked doing

1 2 3 4

very like very unlike

Seemed emotionally cold to me

1 2 3 4

very like very unlike

Appeared to understand my problems and worries

1 2 3 4

very like very unlike

Was affectionate to me

1 2 3 4

very like very unlike

Liked me to make my own decisions

1 2 3 4

very like very unlike

Did not want me to grow up

1 2 3 4

very like very unlike

Tried to control everything I did

1 2 3 4

very like very unlike

Invaded my privacy

1 2 3 4

very like very unlike

Enjoyed talking things over with me

1 2 3 4

very like very unlike

Frequently smiled at me

1 2 3 4

very like very unlike

Tended to baby me

1 2 3 4

very like very unlike

Did not seem to understand what I needed or wanted

1 2 3 4

very like very unlike

Let me decide things for myself

1 2 3 4

very like very unlike

Made me feel I wasn't wanted

1 2 3 4

very like very unlike

Could make me feel better when I was upset

1 2 3 4

very like very unlike

Did not talk with me very much

1 2 3 4

very like very unlike

Tried to make me feel dependent on him

1 2 3 4

very like very unlike

Felt I could not look after myself unless he was around

1 2 3 4

very like very unlike

Gave me as much freedom as I wanted

1 2 3 4

very like very unlike

Let me go out as often as I wanted

1 2 3 4

very like very unlike

Was overprotective of me

1 2 3 4

very like very unlike

Did not praise me

1 2 3 4

very like very unlike

Let me dress in any way I pleased

1 2 3 4

very like very unlike

Section 3: Eating Messages

Please indicate the degree to which your parents emphasized the following behaviors while you were growing up. You will be asked to answer the same set of questions for your mother and father separately.

3.1 Please indicate for each statement how often your MOTHER displayed the behavior in question by ticking a number (1=never to 6=always) on the scales below.

Told you to eat all the food on your plate.

1 2 3 4 5 6

never always

Made sure you finished all the food that was on your plate.

1 2 3 4 5 6

never always

Made you eat at times you were not hungry.

1 2 3 4 5 6

never always

Told you to eat all your vegetables after you told them you didn't want to eat any more.

1 2 3 4 5 6

never always

Looked at you with raised eyebrows at how much you were eating, making you feel that you were eating too much.

1 2 3 4 5 6

never always

Commented that you were eating too much.

1 2 3 4 5 6

never always

Made fun of you (or scolded you) for eating too much.

1 2 3 4 5 6

never always

Told you that you should not eat certain foods because they will "make you fat".

1 2 3 4 5 6

never always

Made you eat despite the fact that you were full.

1 2 3 4 5 6

never always

Talked about dieting or restricting certain high calorie foods.

1 2 3 4 5 6

never always

3.2 Please indicate for each statement how often your FATHER displayed the behavior in question by ticking a number (1=never to 6=always) on the scales below.

Told you to eat all the food on your plate.

1 2 3 4 5 6

never always

Made sure you finished all the food on your plate.

1 2 3 4 5 6

never always

Made you eat at times you were not hungry.

1 2 3 4 5 6

never always

Told you to eat all the vegetables after you told them you didn't want to eat any more.

1 2 3 4 5 6

never always

Looked at you with raised eyebrows at how much you were eating, making you feel that you were eating too much.

1 2 3 4 5 6

never always

Commented that you were eating too much.

1 2 3 4 5 6

never always

Made fun of you (or scolded you) for eating too much.

1 2 3 4 5 6

never always

Told you that you shouldn't eat certain foods because they will "make you fat".

1 2 3 4 5 6

never always

Made you eat despite the fact that you were full.

1 2 3 4 5 6

never always

Talked about dieting or restricting certain high calorie foods.

1 2 3 4 5 6

never always

Section 4: Intuitive Eating

For each item, please circle the answer (1=strongly disagree to 5=strongly agree) that best characterizes your attitudes or behaviors. 1=strongly disagree; 2=disagree; 3=neutral; 4=agree; 5=strongly agree

I try to avoid certain foods high in fat, carbohydrates, or calories.

1 2 3 4 5

strongly disagree strongly agree

I stop eating when I feel full (not overstuffed).

1 2 3 4 5

strongly disagree strongly agree

I find myself eating when I'm feeling emotional (e.g. anxious, depressed, sad), even when I'm not physically hungry.

1 2 3 4 5

strongly disagree strongly agree

If I am craving a certain food, I allow myself to have it.

1 2 3 4 5

strongly disagree strongly agree

I follow eating rules or dieting plans that dictate what, and/or how much to eat.

1 2 3 4 5

strongly disagree strongly agree

I find myself eating when i am bored, even when I'm not physically hungry.

1 2 3 4 5

strongly disagree strongly agree

I can tell when I'm slightly full.

1 2 3 4 5

strongly disagree strongly agree

I can tell when I'm slightly hungry.

1 2 3 4 5

strongly disagree strongly agree

I get mad at myself for eating something unhealthy.

1 2 3 4 5

strongly disagree strongly agree

I find myself eating when I am lonely, even when I'm not physically hungry.

1 2 3 4 5

strongly disagree strongly agree

I trust my body to tell me WHEN to eat.

1 2 3 4 5

strongly disagree strongly agree

I trust my body to tell me WHAT to eat.

1 2 3 4 5

strongly disagree strongly agree

I trust my body to tell me HOW MUCH to eat.

1 2 3 4 5

strongly disagree strongly agree

I have forbidden foods that I don't allow myself to eat.

1 2 3 4 5

strongly disagree strongly agree

When I'm eating, I can tell when I am getting full.

1 2 3 4 5

strongly disagree strongly agree

I use food to help me soothe my negative emotions.

1 2 3 4 5

strongly disagree strongly agree

I find myself eating when I am stressed out, even when I'm not physically hungry.

1 2 3 4 5

strongly disagree strongly agree

I feel guilty if I eat a certain food that is high in calories, fat, or carbohydrates.

1 2 3 4 5

strongly disagree strongly agree

I think of a certain food as "good" or "bad" depending on its nutritional content.

1 2 3 4 5

strongly disagree strongly agree

I don't trust myself around fattening foods.

1 2 3 4 5

strongly disagree strongly agree

I don't keep certain foods in my house/apartment because I think that I may lose control and eat them.

1 2 3 4 5

strongly disagree strongly agree

Section 4: Body Image

4.1 In this section there are a number of body parts and functions. Please read each item and indicate how you feel about this part or function of YOUR OWN BODY using the following scale: 1=Have strong negative

feelings 2=Have moderate negative feelings 3=Have no feelings one way or the other 4=Have moderate positive feelings 5=Have strong positive feelings

body scent

	1	2	3	4	5	
strong negative feelings						strong positive feelings

appetite

	1	2	3	4	5	
strong negative feelings						strong positive feelings

nose

	1	2	3	4	5	
strong negative feelings						strong positive feelings

physical stamina

	1	2	3	4	5	
strong negative feelings						strong positive feelings

reflexes

	1	2	3	4	5	
strong negative feelings						strong positive feelings

lips

	1	2	3	4	5	
strong negative feelings						strong positive feelings

muscular strength

	1	2	3	4	5	
strong negative feelings						strong positive feelings

waist

	1	2	3	4	5	
strong negative feelings						strong positive feelings

energy level

	1	2	3	4	5	
strong negative feelings						strong positive feelings

thighs

	1	2	3	4	5	
strong negative feelings						strong positive feelings

ears

	1	2	3	4	5	
strong negative feelings						strong positive feelings

biceps

	1	2	3	4	5	
strong negative feelings						strong positive feelings

chin

1 2 3 4 5

strong negative feelings strong positive feelings

body bulid

1 2 3 4 5

strong negative feelings strong positive feelings

physical coordination

1 2 3 4 5

strong negative feelings strong positive feelings

buttocks

1 2 3 4 5

strong negative feelings strong positive feelings

agility

1 2 3 4 5

strong negative feelings strong positive feelings

width of shoulders

1 2 3 4 5

strong negative feelings strong positive feelings

arms

1 2 3 4 5

strong negative feelings					strong positive feelings

chest or breasts

	1	2	3	4	5	
strong negative feelings						strong positive feelings

appearance of the eyes

	1	2	3	4	5	
strong negative feelings						strong positive feelings

cheeks/cheekbones

	1	2	3	4	5	
strong negative feelings						strong positive feelings

hips

	1	2	3	4	5	
strong negative feelings						strong positive feelings

legs

	1	2	3	4	5	
strong negative feelings						strong positive feelings

figure or physique

	1	2	3	4	5	
strong negative feelings						strong positive feelings

sex drive

	1	2	3	4	5	
strong negative feelings						strong positive feelings

feet

	1	2	3	4	5	
strong negative feelings						strong positive feelings

sex organs

	1	2	3	4	5	
strong negative feelings						strong positive feelings

appearance of stomach

	1	2	3	4	5	
strong negative feelings						strong positive feelings

health

	1	2	3	4	5	
strong negative feelings						strong positive feelings

sex activities

	1	2	3	4	5	
strong negative feelings						strong positive feelings

body hair

1 2 3 4 5

strong negative feelings strong positive feelings

physical condition

1 2 3 4 5

strong negative feelings strong positive feelings

face

1 2 3 4 5

strong negative feelings strong positive feelings

weight

1 2 3 4 5

strong negative feelings strong positive feelings

weight

1 2 3 4 5

strong negative feelings strong positive feelings

4.2 In this section, please indicate how often each question is true about you. 1=never 2=seldom 3=sometimes 4=often 5=always

I respect my body.

1 2 3 4 5

Never Always

I feel good about my body.

1 2 3 4 5

Never Always

On the whole, I am satisfied with my body.

1 2 3 4 5

Never Always

Despite its flaws, I accept my body for what it is.

1 2 3 4 5

Never Always

I feel that my body has at least some good qualities.

1 2 3 4 5

Never Always

I take a positive attitude towards my body.

1 2 3 4 5

Never Always

I am attentive to my bodies needs.

1 2 3 4 5

Never Always

My self-worth is independent of my body shape or weight.

1 2 3 4 5

Never Always

I do not focus a lot of energy being concerned with my body shape or weight.

1 2 3 4 5

Never Always

My feelings toward my body are positive, for the most part.

1 2 3 4 5

Never Always

I engage in healthy behaviors to take care of my body.

1 2 3 4 5

Never Always

I do not allow unrealistically thin images of women / I do not allow unrealistically muscular images of men presented in the media to affect my attitude toward mt body.

1 2 3 4 5

Never Always

Despite its imperfections, I still like my body.

1 2 3 4 5

Never Always

Despite its imperfections, I still like my body.

1 2 3 4 5

Never Always

4.3 These items ask about your attitudes, feelings, and behaviors relating to food, eating or about yourself. For each item, please decide if the item is true about you. 1=never 2=seldom 3=sometimes 4=often 5=always

I think that my stomach is too big.

1 2 3 4 5

Never Always

I think that my thighs are too large.

1 2 3 4 5

Never Always

I think that my stomach is just the right size.

1 2 3 4 5

Never Always

I feel satisfied with the size of my body.

1 2 3 4 5

Never Always

I like the shape of my buttocks.

1 2 3 4 5

Never Always

I think my hips are too big.

1 2 3 4 5

Never Always

I think that my thighs are just the right size.

1 2 3 4 5

Never Always

I think that my buttocks are too large.

1 2 3 4 5

Never Always

I think that my hips are just the right size.

1 2 3 4 5

Never Always

4.4 These items ask about your attitudes, feelings, and behaviors relating to food, eating or about yourself. For each item, please decide if the item is true about you. 1=never 2=rarely 3=sometimes 4=often 5=usually 6=always

I think about thinness.

1 2 3 4 5 6

Never Always

I am afraid of getting fat.

1 2 3 4 5 6

Never Always

I care too much about my weight.

1 2 3 4 5 6

Never Always

I think about getting thinner.

1 2 3 4 5 6

Never Always

If I gain a pound, I worry that I will keep gaining.

1 2 3 4 5 6

Never Always

I get upset when I eat sweets.

1 2 3 4 5 6

Never Always

I feel worry after eating too much food.

1 2 3 4 5 6

Never Always

Appendix IV: Debriefing Document

Thank you very much for your participation.

By participating in this study, you have provided crucial information for a student research project and made a valuable contribution to psychological research.

Disclosing information concerning body image and body satisfaction might cause discomfort, however, please be ensured that your participation has been entirely anonymous. It is not possible to identify

you from the information that you have provided and data will be treated confidentially.

Likewise, reflecting upon parenting style and parenting practices might cause distress. If emotional stress remains, consider getting in touch with a professional help service and feel free to contact the researcher to obtain additional information regarding the study.

On a more positive note, this study might have helped participants who have made positive experiences with their parents to appreciate their upbringing more, and to motivate participants that are dissatisfied with their weight status or eating habits to look into intuitive eating practices for guidance.

Thank you very much for your contribution.