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**Mental health symptoms are related to mothers' use of controlling and responsive
child feeding practices: A replication and extension study**

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16

Abstract

17 Parents have an important role in feeding their children. Parents' child feeding practices can
18 be influenced by numerous factors. The presence of mental health symptoms can be
19 associated with more controlling, less sensitive parent-child feeding interactions. However, it
20 is not known whether mental health symptoms are related to parents' use of responsive,
21 more autonomy supportive feeding practices which are important for promoting children's
22 healthy eating habits. This study therefore aimed to examine the relationships between
23 mental health symptoms and the use of controlling and responsive child feeding practices. A
24 community sample of 415 UK mothers with a child age 2-4 years took part. They completed
25 self-report measures of their levels of anxiety, depression and disordered eating behaviours
26 as well as a comprehensive measure of their child feeding practices. The presence of
27 mental health symptoms was significantly associated with greater self-reported use of
28 controlling feeding practices, such as more restriction for weight control and using food as a
29 reward. Maternal symptoms of anxiety and depression were related to lower use of
30 modelling and monitoring but to giving children more control around food. Mothers'
31 restrained and external eating behaviours were associated with greater use of several
32 responsive feeding practices, including encouraging balance and variety, involvement, and
33 teaching about nutrition. Together, these findings highlight the broad impact that mental
34 health symptoms can have on mothers' controlling and responsive child feeding interactions.
35 Interventions to support families to promote healthy child eating habits need to be aware of
36 the role of even fairly mild, non-clinical levels of mental health symptoms on maternal
37 sensitivity and involvement in feeding their children.

38

39 **Key words:** child feeding; parents' mental health; parental restriction of children's food
40 intake; parental role modelling; children's involvement with food; controlling child feeding
41 practices; responsive child feeding practices

42 **Mental health symptoms are related to mothers' use of controlling and responsive**
43 **child feeding practices: A replication and extension study**

44

45 It is well established that symptoms of mental health problems are often related to parents'
46 interactions with their children across a variety of domains (e.g., play; Stein et al., 2001) but
47 particularly in relation to food and eating (e.g., McPhie, Skouteris, Daniels & Jansen, 2014).
48 Evidence confirms a link between parental psychopathology and children's eating
49 behaviours (e.g., food refusal behaviours or feeding disorders), as well as dysfunctional
50 mealtime interactions (e.g., Ammaniti, Lucarelli, Cimino, D'Olimpio & Chatoor, 2010;
51 Coulthard & Harris, 2003; Stein, Woolley & McPherson, 1999). Parents with symptoms of
52 mental health problems have been found to be more likely to use more controlling or non-
53 responsive feeding practices with their children, and these findings are evident in both
54 clinical and non-clinical samples (e.g., Blissett & Haycraft, 2008, 2011; De Lauzon-Guillain,
55 Musher-Eizenman, Leporc, Holub & Charles, 2009; Elias et al., 2016; Francis, Hofer & Birch,
56 2001; Goulding et al., 2014; Haycraft & Blissett 2008, 2012; Haycraft, Farrow & Blissett,
57 2013; Hughes, Shewchuk, Baskin, Nicklas & Qu, 2008; Hurley, Black, Papas, Caulfield, &
58 Caulfield, 2008; Mitchell, Brennan, Hayes & Miles, 2009; Ystrom, Barker & Vollrath, 2012).
59 Controlling, non-responsive feeding practices are typified by parents not responding
60 appropriately to their child's cues, which can include parents pressuring children to eat more
61 than they wish, and also by parents exhibiting high levels of control in the food environment,
62 such as overtly restricting children's intake of foods (e.g., Birch et al., 2001). The use of
63 such controlling or non-responsive feeding practices has been associated with less healthy
64 eating behaviours in children. This includes children having less liking for foods that they are
65 pressured to eat (e.g., Galloway, Fiorito, Francis, & Birch, 2006) and a tendency, when
66 children are subsequently given free access, to eat more of foods that are typically restricted
67 (e.g., Birch, Fisher & Davison, 2003; Boots, Tiggemann, & Corsini, 2018). Such eating
68 behaviours can impair children's healthy development by impacting their responses to
69 internal hunger and fullness cues which can contribute to the development of overweight and

70 obesity (Faith, Scanlon, Birch, Francis, & Sherry, 2004). Therefore, the use of such
71 controlling feeding practices is not typically recommended.

72

73 While evidence predominantly suggests that mental health symptoms can be linked with the
74 use of more controlling, non-responsive or intrusive child feeding interactions, there is also
75 evidence that parents with psychopathology can withdraw from such interactions. For
76 example, mothers with lower levels of positive affect (Hughes, Power, Liu, Sharp, & Nicklas,
77 2015), or mothers reporting stress, depression, or anxiety symptoms (Hurley et al., 2008),
78 have been found to use uninvolved feeding styles, and mothers with current or past eating
79 disorders have been found to be less likely than mothers in a control group to cook or eat
80 with their children (Waugh & Bulik, 1999). Such findings depict lower levels of involvement
81 and greater withdrawal from feeding situations in mothers experiencing symptoms of mental
82 health problems.

83

84 Over the past 15-20 years, research into caregivers' feeding practices has widened, thanks
85 to the development of measures such as the Comprehensive Feeding Practices
86 Questionnaire (Musher-Eizenman & Holub, 2007) which consider a broader range of
87 controlling and also responsive feeding practices. Indeed, a recent review highlighted 33
88 different instruments for measuring responsive feeding in children (Heller & Mobley, 2019).
89 Responsive feeding involves parents being sensitive to their child's hunger and fullness
90 cues, supporting the development of children's autonomy around food, and can also involve
91 engaging children in meal- or food-related decisions, so as to support their child's
92 understanding of, and familiarity with, a range of foods. Evidence suggests that parental use
93 of responsive feeding practices, such as involving children in food preparation, teaching
94 children about nutrition, and being a good role model, is associated with children's healthy
95 eating behaviours (e.g., Finnane, Jansen, Mallan, & Daniels, 2017; Palfreyman, Haycraft &
96 Meyer, 2014) and so the use of more responsive feeding practices by parents/caregivers
97 tends to be advocated.

98

99 What is currently unknown, however, is whether the presence of mental health symptoms
100 might be related to parent/caregiver use of more responsive, autonomy supportive feeding
101 practices. It is possible, based on the evidence regarding parent mental health problems
102 and controlling feeding practices, that parents with symptoms of mental health problems
103 might be less sensitive, be more likely to withdraw from the feeding situation, and use lower
104 levels of responsive feeding practices. It is equally plausible that parents with symptoms of
105 mental health problems might be keen to compensate for these and so use greater levels of
106 responsive feeding practices as a result. The current study aimed to explore this.

107 Furthering our understanding of the potential link between psychopathology and feeding
108 practices will facilitate the development and tailoring of public health interventions to promote
109 healthy feeding practices in caregivers and thereby support the development of healthy
110 eating behaviours in children from the early years.

111

112 Therefore, the aim of this study was to, first, replicate existing research which has found an
113 association between mental health symptoms and the use of controlling child feeding
114 practices in mothers of young children. The second aim was to extend past research by i)
115 looking at a broader variety of controlling feeding practices and ii) considering the potential
116 association between mental health symptoms and the use of responsive feeding practices.
117 Given recommendations that tailoring interventions to the needs of the mothers is likely to
118 enhance the effectiveness of childhood nutrition and obesity prevention programmes (e.g.,
119 McPhie et al., 2014), understanding about the impact of sub-clinical levels of mental health
120 problems on parent-child feeding interactions is particularly important. This research will
121 therefore consider a community sample of mothers of pre-school age children, as mothers
122 are typically more involved in feeding children before they start school and because of the
123 increased rates of mental health problems in mothers in recent years (e.g., Abel et al.,
124 2019). It was hypothesised that greater reports of anxiety, depression, and disordered
125 eating (i.e., restrained eating, emotional eating and external eating) in mothers would be

126 related to greater reported use of a range of controlling child feeding practices (e.g.,
127 pressure to eat, restriction, use of food as a reward). Given the lack of research to date, no
128 a priori hypothesis was made relating to the associations between reports of anxiety,
129 depression, restrained eating, emotional eating and external eating in mothers and their use
130 of responsive child feeding practices (e.g., modelling, teaching about nutrition).

131

132

Method

Participants

134 A community sample of 415 UK mothers of children aged between 2 and 4 years
135 participated. The mothers' mean age was 32 years (SD 5.69). The majority of the sample
136 reported their ethnicity as White (97.1%). The education level of the mothers was variable:
137 16.7% had GCSEs as their highest level of educational attainment, 15.9% had completed A-
138 levels (or equivalent), 30.4% were university graduates, and a further 30.4% had a
139 postgraduate qualification. The mean child age was 3.08 years (SD 0.78) and 54.7% were
140 female.

141

Measures and procedure

143 Loughborough University Ethics Approvals (Human Participants) Sub-Committee approved
144 this study. Mothers were recruited through social media and nurseries in Leicestershire and
145 the West Midlands of the UK and invited to complete a survey either online or on paper.
146 After providing informed consent, participants provided some background information about
147 themselves and their child (e.g., age, sex, education, ethnicity, child age and sex) and then
148 completed the following standardised questionnaires.

149

Comprehensive Feeding Practices Questionnaire (CFPQ; Musher-Eizenman & Holub, 2007)

151 The CFPQ includes 49 questions divided into 12 subscales. Seven subscales relate to
152 'responsive' or autonomy supporting feeding practices and five subscales relate to
153 'controlling' feeding practices. The seven 'responsive' or autonomy supporting feeding

154 practice subscales are: child control (e.g., “Do you let your child eat whatever s/he wants?”),
155 teaching about nutrition (e.g., “I discuss with my child why it’s important to eat healthy
156 foods”), encourage balance and variety (e.g., “I encourage my child to eat a variety of
157 foods”), environment (e.g., “Most of the food I keep in the house is healthy”), involvement
158 (e.g., “I allow my child to help prepare family meals”), modelling (e.g., “I show my child how
159 much I enjoy eating healthy foods”), and monitoring (e.g., “How much do you keep track of
160 the high-fat foods that your child eats?”). The five ‘controlling’ feeding practice subscales
161 are: pressure (e.g., “If my child eats only a small helping, I try to get him/her to eat more”),
162 restriction for health (e.g., “If I did not guide or regulate my child’s eating, he/she would eat
163 too many junk foods”), restriction for weight (e.g., “I restrict the food my child eats that might
164 make him/her fat”), emotion regulation (e.g., “Do you give this child something to eat or drink
165 if s/he is upset even if you think s/he is not hungry?”), and food as a reward (e.g., “I offer my
166 child his/her favourite foods in exchange for good behaviour”). Responses are made from 1
167 (never/disagree) to 5 (always/agree) and the mean score is calculated for each subscale.
168 Higher scores show greater use of that feeding practice. The CFPQ is a well-used measure
169 which demonstrates good validity and reliability (e.g., de Lauzon-Guillain et al., 2009;
170 Musher-Eizenman & Holub, 2007).

171

172 Dutch Eating Behaviour Questionnaire (DEBQ: Van Strien, Frijters, Bergers, & Defares,
173 1986).

174 The DEBQ measures three types of eating behaviour: external eating (e.g., “If food smells
175 and looks good, do you eat more than usual?”), emotional eating (e.g., “Do you have a
176 desire to eat when somebody lets you down?”), and restrained eating (e.g., “Do you
177 deliberately eat less in order not to become heavier?”). All items are rated on a five-point
178 scale (“never” to “very often”). The mean is calculated for each subscale with higher scores
179 indicating a more frequent occurrence of the eating behaviour. The DEBQ has been
180 successfully used in other studies exploring mothers’ eating behaviours where it has been

181 shown to be valid and reliable (e.g., Wardle, 1987; Wardle, Sanderson, Guthrie, Rapoport, &
182 Plomin, 2002).

183

184 *Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983).*

185 The HADS is a 14-item measure of anxiety and depression. Seven items assess symptoms
186 of anxiety (e.g., “Worrying thoughts go through my mind”) and seven items assess

187 symptoms of depression (e.g., “I feel as if I am slowed down”). Participants respond to the

188 14 statements on scale from 0 to 3 scale and responses to each subscale are summed.

189 Higher scores indicate greater symptoms of anxiety or depression. The HADS has been

190 found to display adequate validity and reliability in general population samples (Bjelland,

191 Dahl, Haug, & Neckelmann, 2002).

192

193 *Data analysis*

194 Shapiro-Wilk tests determined that the data were predominantly non-normally distributed.

195 Preliminary two-tailed Spearman’s Rho correlations indicated multiple significant

196 relationships between child age with various CFPQ subscales (see Table 1) and so partial

197 correlations, controlling for child age, were used to test the study’s aims and hypothesis. A

198 significance level of $p < 0.05$ was adopted for all analysis.

199

200

Results

201 *Descriptive statistics*

202 Descriptive statistics for the study’s measures are presented in Table 1. Mean maternal

203 anxiety levels were classified as “mild” and mean depression levels were “low” (Zigmond &

204 Snaith, 1983). Mean DEBQ and CFPQ subscale scores were in line with previous research

205 using similar samples (e.g., de Lauzon-Guillain et al., 2009; Wardle et al., 2002). Child age

206 was significantly, positively correlated with maternal use of restriction for health, teaching

207 about nutrition, and involvement, and significantly, negatively associated with maternal use

208 of emotion regulation.

209

210

-TABLE 1 ABOUT HERE-

211

212 *Mental health symptoms and controlling child feeding practices*

213 To test the hypothesis that higher levels of anxiety, depression, restrained eating, emotional

214 eating and external eating in mothers would be related to greater reported use of controlling

215 child feeding practices, one-tailed partial correlations were run (see Table 2).

216

217

-TABLE 2 ABOUT HERE-

218

219 There were positive, significant relationships between anxiety, depression, external eating

220 and restrained eating with all five of the controlling feeding practices, whereby higher levels

221 of maternal mental health symptoms were associated with greater use of more controlling

222 child feeding practices. Maternal emotional eating was significantly, positively related to

223 three of the five child feeding practices, namely: restriction for health, restriction for weight

224 and, use of food as a reward.

225

226 *Mental health symptoms and responsive child feeding practices*

227 To test for relationships between mothers' reports of anxiety, depression, restrained eating,

228 emotional eating and external eating with their use of responsive child feeding practices,

229 two-tailed partial correlations were run (see Table 3).

230

231

-TABLE 3 ABOUT HERE-

232

233 Symptoms of anxiety and depression in mothers were significantly, positively associated with

234 the CFPQ subscale of child control and significantly, negatively associated with maternal

235 modelling and monitoring. Maternal anxiety was also significantly, positively correlated with

236 the feeding practice of involvement. Maternal emotional eating was only significantly related

237 to CFPQ-environment, where greater maternal emotional eating was linked with reports of
238 mothers providing a healthier home environment for their children. External eating and
239 restrained eating in mothers were both significantly, positively associated with the feeding
240 practices of teaching about nutrition, encouraging balance and variety, environment, and
241 involvement. Maternal restrained eating was significantly, negatively associated with the
242 feeding practice of monitoring. There were no other significant relationships.

243

244

Discussion

245

246 This study aimed to replicate existing research by examining associations between mental
247 health symptoms and the use of controlling child feeding practices in mothers of young
248 children. It also extended research by considering a broader variety of controlling feeding
249 practices (i.e. using food for emotion regulation and as a reward) and by examining the
250 associations between mental health symptoms and mothers' use of a wide variety of
251 responsive feeding practices. Higher levels of anxiety, depression, restrained eating,
252 emotional eating and external eating in mothers were predicted to be related to greater
253 reported use of controlling child feeding practices but no a priori hypothesis was made
254 regarding the relationships between mental health symptoms and responsive child feeding
255 practices. The study's hypothesis was supported.

256

257 Symptoms of maternal anxiety and depression were associated with higher reported use of a
258 range of controlling feeding practices, highlighting evidence of more intrusive, directive
259 feeding practices being used by mothers who are experiencing symptoms of anxiety and/or
260 low mood/depression. These findings support past research which suggests that general
261 psychopathology, even in non-clinical samples, can be related to the use of more controlling
262 feeding interactions (see McPhie et al., 2014), and extends this to highlight that anxiety and
263 depression are also related to mothers' use of food to regulate emotions and using food as a
264 reward; practices which can disrupt children's internal regulation (e.g., Blissett, Haycraft &

265 Farrow, 2010; Capaldi, 1996; Van Strien, 1986). Recent research has found parental
266 concern about their child's fussy eating to be related to their use of controlling, non-
267 responsive feeding practices (Harris, Jansen, Mallan, Daniels & Thorpe, 2018) and so the
268 current findings extend this to suggest that broader levels of more global anxiety (concern),
269 as well as depression, can be related to controlling, non-responsive feeding practices.
270 There was also evidence that the presence of disordered eating behaviours in mothers was
271 associated with more controlling, less sensitive feeding practices. Mothers' restrained and
272 external eating behaviours were associated with greater use of all five controlling feeding
273 practices whereas emotional eating was linked with greater restriction (for health and for
274 weight) and greater use of food as a reward. Again, these findings support and extend past
275 research (e.g., Blissett & Haycraft, 2008, 2011; De Lauzon-Guillain et al., 2009; Francis et
276 al., 2001; Haycraft & Blissett, 2008) and align with Costanzo and Woody's (1985)
277 supposition that parents can be more controlling in domains of parenting in which they are
278 more invested – i.e. if a mother has her own eating issues, she is more likely to be more
279 concerned about her child's eating behaviour and, in turn, exhibit more controlling feeding
280 practices.

281

282 A more varied pattern of associations was found between maternal mental health symptoms
283 and responsive feeding practices. Mothers with higher levels of anxiety or depression
284 reported giving children greater control over food and eating ('child control'). This finding
285 suggests that mothers experiencing symptoms of anxiety or depression might relinquish
286 control to their children and aligns with research which has found a more uninvolved feeding
287 style in mothers experiencing mental health problems (e.g., Hughes et al., 2015; Hurley et
288 al., 2008). While allowing children control over their eating is an important part of a child's
289 autonomy development, this should be done alongside appropriate maternal support and
290 involvement in order to facilitate optimal child development, which may not be occurring in
291 these mothers, given the other significant findings from this study. Indeed, higher levels of
292 anxiety and depression were also related to less role modelling and less monitoring by

293 mothers. Both modelling and appropriate amounts of monitoring have been related to
294 healthy child eating and weight (e.g., Palfreyman et al., 2014; Faith et al., 2004; Yee et al.,
295 2017) and so a lack of these feeding behaviours in mothers experiencing even mild-low
296 levels of anxiety or depression could be concerning. Taking these results together, these
297 novel findings highlight that mothers might specifically withdraw from, or be less involved
298 with, the feeding situation when they are experiencing symptoms of anxiety and/or low
299 mood, and this is something for health professionals and practitioners working with families
300 to support healthy child nutrition to be mindful of. More encouragingly, however, mothers
301 who reported higher levels of anxiety also reported involving their children more in food and
302 mealtimes. Greater involvement has been related to increased consumption of healthy
303 foods, such as vegetables (De Costa, Møller, Bom Frøst & Olsen, 2017), and is
304 recommended as an effective way to promote children's healthy food intake.

305

306 In terms of maternal eating behaviours, mothers who reported higher levels of either
307 restrained or external eating (i.e. limiting their own food intake or eating in response to
308 environmental cues rather than hunger) reported similar feeding practices to each other.
309 These mothers reported teaching children more about nutrition, encouraging children's
310 consumption of a balanced and varied diet, having a healthier home environment, and
311 involving their children more in mealtime planning and preparation. For mothers with their
312 own concerns or preoccupations around food (be these under- (restrained) or over-
313 (external) eating), these findings could suggest that they are more aware of the importance
314 and value of healthy eating and of involving children in food and mealtime decisions. This
315 finding is potentially encouraging and could indicate that low-to-moderate maternal concerns
316 or preoccupations around food are not always a risk factor for the intergenerational
317 transmission of disordered eating (Whitehouse & Harris, 1998) and obesity risk (Wardle et
318 al., 2002), but can be channelled into more responsive, health-promoting food and mealtime
319 interactions with children.

320

321 Mothers who reported higher levels of restrained eating also reported less monitoring of their
322 children's food intake. This finding mirrors that found for symptoms of anxiety and
323 depression and could be seen to be encouraging, given that too much monitoring can be
324 intrusive and controlling. For mothers who restrict their own food intake, using less
325 monitoring of what their children eat probably constitutes a more healthful behaviour.
326 Finally, mothers who reported engaging in emotional eating were more likely to promote a
327 healthy environment and make healthy foods available at home. In the context of emotional
328 eating, which is typified by the consumption of less healthy, energy-dense snack foods (e.g.,
329 Nguyen-Michel, Unger, & Spruijt-Metz, 2007), having more nutritious foods in the house is
330 sensible and could prevent mothers from emotionally overeating less healthy foods
331 themselves as well as helping them to support their children to eat more healthily.

332

333 When the findings for maternal eating behaviours are considered together, it appears that
334 the presence of disordered eating, particularly restrained and external eating, can be
335 associated with greater use of more controlling but also more responsive feeding practices in
336 some mothers. This suggests that mothers with their own eating concerns are often more
337 involved – in both controlling and more responsive ways – with food and mealtimes for their
338 children. Further longitudinal work would benefit from exploring the use of responsive
339 feeding practices in children of mothers with disordered eating behaviours to determine
340 longer term impacts. In the more immediate term, intervention programmes which aim to
341 work with families to promote healthy child development will need to be aware of the
342 possible dual impact of maternal disordered eating habits to ensure that healthy parent-child
343 interactions around food are facilitated to support optimal child development and growth.

344

345 This research has extended our previous understanding of the role of mental health
346 problems in mothers' use of child feeding practices. Given that tailoring interventions to the
347 needs of mothers is likely to improve the success of childhood health promotion and obesity
348 prevention programmes (McPhie et al., 2014), understanding about the impact of a wide

349 range of sub-clinical levels of mental health problems on parent-child feeding interactions is
350 important. Strengths of this study include the replication and extension of past research, the
351 inclusion of a diverse range of feeding practices, and the good sample size. Limitations
352 include the homogeneity of the participants (mothers who were mostly white British and fairly
353 well educated), and the lack of consideration of the role of child factors on these
354 relationships. Further work is required which builds on this study by using a more diverse
355 sample, in terms of both ethnicity and education, and which considers the role of child
356 factors known to be important in determining feeding practices (e.g., fussy eating or
357 temperament; Finnane et al., 2017; McPhie et al., 2014), alongside the use of mealtime
358 observations to validate this study's self-report findings.

359

360 **Conclusion**

361 The presence of symptoms of anxiety and/or depression in mothers with a child aged 2 to 4
362 can be associated with lower use of some of the responsive feeding practices which have
363 been associated with healthier child eating behaviours, as well as greater use of more
364 controlling feeding practices, which have been linked to disruptions in children's internal
365 regulation. In contrast, the presence of less healthy maternal eating behaviours was shown
366 to be generally related to greater use of controlling and responsive feeding behaviours.
367 Such findings are important for programmes aiming to support families to promote healthier
368 eating habits in children as they suggest that the presence of even low levels of anxiety and
369 depression symptoms might be associated with mothers using a wide variety of less
370 favourable feeding practices with their children. This evidence provides further information
371 to inform the development of tailored family-based interventions and is likely to be beneficial
372 for professionals, researchers, policy makers and practitioners working with families to
373 identify areas to target in efforts to improve caregiver-child interactions around food and
374 eating and to support childhood obesity prevention efforts.

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381

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511 *Table 1: Descriptive statistics for the study variables for mothers and preliminary two-tailed*
 512 *Spearman's Rho correlations between child age and subscales on the Comprehensive*
 513 *Feeding Practices Questionnaire*

	Mean	SD	Min	Max	N	Child age (r)
Hospital Anxiety and Depression Scale						
Anxiety	8.17	4.00	1.00	20.00	414	
Depression	5.12	3.31	0.00	14.00	403	
Dutch Eating Behaviour Questionnaire						
Emotional eating	2.64	0.93	1.00	5.00	414	
External eating	3.05	0.80	1.00	5.00	412	
Restrained eating	2.51	1.01	1.00	5.00	414	
Comprehensive Feeding Practices Questionnaire						
'Controlling' subscales						
Pressure to eat	2.89	0.80	1.00	5.00	414	-0.01
Restriction for health	2.98	0.80	1.00	5.00	414	.102*
Restriction for weight control	2.51	0.63	1.00	4.63	414	0.05
Emotion regulation	1.93	0.69	1.00	5.00	415	-.136**
Food as a reward	2.82	0.96	1.00	5.00	414	0.05
'Responsive' subscales						
Child control	2.51	0.69	1.00	4.40	415	-0.03
Teaching about nutrition	3.69	0.69	1.67	5.00	414	.118*
Encouraging balance and variety	4.30	0.54	2.25	5.00	415	0.04
Environment	3.41	0.69	2.00	5.00	414	0.06
Involvement	2.48	1.03	1.00	5.00	414	.131**
Modelling	4.07	0.79	1.00	5.00	414	0.06
Monitoring	4.26	0.70	1.00	5.00	415	0.03

514 * p<.05; ** p<.01, *** p<.001

515 *Table 2: One-tailed partial correlations (controlling for child age) between symptoms of*
 516 *anxiety, depression and disordered eating with controlling child feeding practices (N=396,*
 517 *listwise)*

	Hospital Anxiety and Depression Scale		Dutch Eating Behaviour Questionnaire		
	Anxiety	Depression	Emotional eating	External eating	Restrained eating
Pressure to eat	.130**	.198***	-.006	.221***	.344***
Restriction for health	.164**	.116*	.159***	.334***	.436***
Restriction for weight control	.216***	.268***	.272***	.182***	.320***
Emotion regulation	.169***	.115*	.051	.195***	.215***
Food as a reward	.182***	.188***	.162***	.272***	.527***

518 * $p < .05$; ** $p < .01$; *** $p < .001$

519 *Table 3: Two-tailed partial correlations (controlling for child age) between symptoms of*
 520 *anxiety, depression and disordered eating with responsive child feeding practices (N=396,*
 521 *listwise)*

	Hospital Anxiety and Depression Scale		Dutch Eating Behaviour Questionnaire		
	Anxiety	Depression	Emotional eating	External eating	Restrained eating
Child control	.175***	.108*	-.052	.075	.065
Teaching about nutrition	.053	.029	-.027	.471***	.229***
Encouraging balance & variety	-.008	-.078	.069	.419***	.223***
Environment	-.048	.050	.208***	.147***	.346***
Involvement	.137***	.069	.049	.437***	.568***
Modelling	-.141***	-.255***	.094	.007	-.047
Monitoring	-.100*	-.178***	.017	-.087	-.119*

522 * p<.05; **p<.01; ***p<.001