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Mother and Child Personality Traits Associated with Common Feeding Strategies and Child Body Mass Index

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Abstract

The feeding strategies that parents use with their children shape their children's attitudes and behaviors toward food. The present research examined whether personality traits of the mother and the child are associated with the types of feeding strategies mothers use with their children. The present research also examined whether these characteristics are associated with the child's body mass index (BMI). Mothers ($N=2,928$) reported how often they used three feeding strategies (Restriction, Pressure to Eat, Monitoring) with the target child and their personality and the personality of the child. Both mother and child Conscientiousness were associated significantly with less use of Restriction and Pressure to Eat and more use of Monitoring. Child Openness and Agreeableness were likewise related to less use of Restriction and Pressure to Eat. Mother and child Conscientiousness were associated with child obesity: Children with obesity scored lower in Conscientiousness and also had mothers who scored lower on this trait; Restriction and Pressure to Eat partially mediated the association between mother Conscientiousness and child BMI. The present findings suggest that individual differences in both mother and child personality are associated with the use of three common feeding strategies in childhood and the child's weight.

Keywords

personality traits; intergenerational; feeding strategies; child weight

Childhood obesity remains a significant concern, both within the United States (Ogden et al., 2016) and around the world (Ng et al., 2014). Many factors contribute to any individual child's weight, factors that range from genetics to public policy (Gortmaker et al., 2011). Within this continuum, parents play an important role in shaping the food environment of the child (Campbell et al., 2007). In addition to providing the food the child eats, parents' attitudes and practices toward food consumption also contribute to the eating behavior of the child and the child's weight (Couch, Glanz, Zhou, Sallis, & Saelens, 2014).

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Specific feeding strategies that parents use with their children have been linked to a variety of food-related outcomes. Common feeding strategies include *Restriction*, in which parents limit what the child eats, *Pressure to Eat*, in which parents pressure the child to eat more or specific types of food, and *Monitoring*, in which the parent is vigilant about what the child is eating (Birch et al., 2001). The use of restriction strategies has been associated with increased intake of palatable food (Boots, Tiggemann, Corsini, & Mattiske, 2015), more eating in the absence of hunger (Ventura & Birch, 2008), overeating, and higher BMI (Couch et al., 2014; Faith, Scanlon, Birch, Francis, & Sherry, 2004). Pressure to Eat has been associated with greater intake of snacks and sugar-sweetened beverages (Sleddens et al., 2014), less intake of fruits and vegetables (Fisher, Mitchell, Smiciklas-Wright, & Birch, 2002), and greater pickiness and dislike of food (Jansen et al., 2017; Ventura & Birch, 2008) but is associated with less child weight gain over time (Afonso et al., 2016). Monitoring tends to be associated with more positive eating-related outcomes, such as less emotional eating and greater enjoyment of food (Jansen et al., 2012) and is unrelated to child's BMI over time (Afonso et al., 2016).

Characteristics of the parent and child are associated with the type of feeding strategies parents use with their children. For example, a systematic review of the literature found that mothers who use control and demanding parenting styles and mothers who have their own eating psychopathology tend to use more restrictive feeding strategies (McPhie, Skouteris, Daniels, & Jansen, 2014). The child's own eating and psychological characteristics, such as emotional eating and sociability, are also associated with the feeding strategies parents use with them (Haycraft & Blissett, 2012). In addition, a systematic review of the literature found that aspects of the child's temperament are related to parental feeding strategies (e.g., child's difficult temperament was associated with greater use of food to calm the child; Bergmeier, Skouteris, Horwood, Hooley, & Richardson, 2014).

Similar to child's temperament, the parent personality may shape the feeding strategies that parents use. Personality traits, a person's characteristic ways of thinking, feeling, and behaving, have been related to a number of weight-related outcomes. As defined by the Five Factor Model (FFM; Costa & McCrae, 1992), personality is operationalized along five broad dimensions: Neuroticism/Emotional Stability (the tendency to experience negative emotions and vulnerability to stress versus the tendency to be emotionally stable)¹, Extraversion (the tendency to be sociable, energetic, and outgoing), Openness (the tendency to be creative, open-minded, with a preference for variety), Agreeableness (the tendency to be cooperative, trusting, and compassionate), and Conscientiousness (the tendency to be organized, diligent, and disciplined). While these traits measure fundamental psychological dispositions with pervasive relations with behavior, knowledge is limited on the relation between personality traits and feeding strategies; the first purpose of the present research is to examine this association for both mother and child personality.

¹This trait is referred to sometimes as Neuroticism (e.g., Costa & McCrae, 1992) and sometimes as Emotional Stability (e.g., Gosling et al., 2003), which are the two ends of the trait. To maintain consistency with both literatures for this trait, we refer to it as Neuroticism/Emotional Stability and discuss the previous literature and report the findings in the direction of Neuroticism.

The second purpose of this research is to examine the association between mother and child personality and child body mass index (BMI). Although less research has addressed whether personality traits are associated with feeding strategies, there is substantial evidence that personality traits are associated with BMI (Jokela et al., 2013; Magee & Heaven, 2011; Sutin & Terracciano, 2016). Conscientiousness, for example, is associated consistently with BMI in adulthood: Individuals who score low in Conscientiousness tend to have a higher BMI (Sutin, Ferrucci, Zonderman, & Terracciano, 2011) and a greater risk of obesity (Jokela et al., 2013). There is also some evidence that Neuroticism/Emotional Stability is associated with higher BMI and risk of obesity in adulthood (Magee & Heaven, 2011; Sutin et al., 2011); but not all find this relation (Jokela et al., 2013).

Temperamental traits akin to Conscientiousness have been implicated in the weight trajectory of the child over time. Children who score higher in persistence at age 4, for example, have healthier weight gain across childhood (Sutin, Kerr, & Terracciano, 2017), children who show better delay of gratification in early childhood are less likely to be obese in young adulthood (Schlam, Wilson, Shoda, Mischel, & Ayduk, 2013), and children who report more self-control gain less weight over the transition from childhood to adolescence (Duckworth, Tsukayama, & Geier, 2010). In addition, negative affectivity, a temperamental trait similar to Neuroticism/Emotional Stability, has likewise been associated with greater weight gain across childhood (Sutin et al., 2017) and greater weight gain into young adulthood (Pulkki-Råback, Elovainio, Kivimäki, Raitakari, & Keltikangas-Järvinen, 2005).

Less is known, however, about whether there is an intergenerational transfer of parent personality to child weight. Adults who are conscientious tend to eat healthier food and exercise more often (Sutin & Terracciano, 2016). Parents with this trait might provide an environment that encourages healthier weight among their children. Likewise, the poor habits associated with Neuroticism/Emotional Stability, including overeating (Lee-Winn, Townsend, Reinblatt, & Mendelson, 2016) and sedentary behavior (Sutin et al., 2016), may shape the child's environment to promote obesity.

The purpose of this study is to examine whether mother and child personality is associated with parent feeding strategies and child BMI. Given that individuals high in Conscientiousness tend to be good at monitoring their behavior, we expected this association to extend from parent to feeding strategies for their child (i.e., a positive association between mother Conscientiousness and Monitoring). In a similar vein, given that individuals high in Neuroticism/Emotional Stability try to restrict their own food intake (Heaven, Mulligan, Merrilees, Woods, & Fairouz, 2001), we again expected this association would extend from parent to child (i.e., a positive association between mother Neuroticism/Emotional Stability and Restriction). We also expected parent personality to be associated with study child BMI: Parents higher in Neuroticism/Emotional Stability and lower in Conscientiousness are expected to have children with higher BMI (i.e., a positive association between mother Neuroticism/Emotional Stability and child BMI and a negative association between mother Conscientiousness and child BMI). We test these hypotheses in a large national sample of mothers and their children between the ages of 4 and 12. The age range from early to late childhood of the sample allowed us to further examine whether any of these associations were moderated by child age.

Method

Participants and Procedure

A total of 2,928 participants living in the United States completed measures of personality and child feeding practices as part of a larger online study of childhood body weight. Participants were recruited through Survey Sampling International and directed to a Qualtrics survey administered by the Florida State University College of Medicine. The survey was limited to mothers of children between the ages of 4 and 12. Mothers were targeted because they remain the primary caregivers of school-aged children. The sample was stratified by race (~20% African American) and ethnicity (~10% Hispanic/Latino) to ensure adequate sample size for these underrepresented populations. Participants were, on average, 35.67 ($SD=9.07$; range = 18-65) years old, 64% non-Hispanic white, 18% African American, 10% Hispanic white, 4% Asian, 3% multiracial, and 1% other/unknown. By design, the sample was 100% women.

In addition to reporting on themselves, mothers also reported on one of their children. To select the child to report on, mothers first reported how many children they had between the ages of 4 and 12. The computer then randomly selected one of those children for the mother to report on (e.g., participants were told to report on their second oldest child between the ages of 4 and 12). This process was used so that mothers would not selectively pick a child of a certain weight. Children were, on average, 7.59 years old ($SD=2.46$) and 50% were female.

Measures

Mother personality.—The Ten-Item Personality Inventory (TIPI; Gosling, Rentfrow, & Swann, 2003) was used to assess mother's personality. The TIPI measures each of the five major dimensions of personality with two items for each trait: Neuroticism/Emotional Stability ("anxious, easily upset" and "calm, emotionally stable"; $\alpha=.48$), Extraversion (e.g., "extraverted, enthusiastic"; $\alpha=.39$), Openness (e.g., "open to new experiences, complex"; $\alpha=.24$), Agreeableness (e.g., "sympathetic, warm"; $\alpha=.30$), and Conscientiousness (e.g., "dependable, self-disciplined"; $\alpha=.36$). Each item was rated from 1 (*strongly disagree*) to 5 (*strongly agree*). Similar to other studies (Gosling et al., 2003; median $\alpha=.50$), the alpha reliabilities in this sample were low because each trait is measured with only two items. In developing the TIPI, Gosling and colleagues (2003) emphasized content validity over internal consistency when items were selected. Furthermore, previous research has shown that the TIPI has good retest reliability (r s range from .60-.81 for two-week retest and r s range from .62-.77 for six-week retest; Gosling et al., 2003), and test-retest reliability has been shown to be a better predictor of validity than internal consistency (McCrae, Kurtz, Yamagata, & Terracciano, 2011). The TIPI also has demonstrated good predictive validity (Ehrhart et al., 2009; Gosling et al., 2003).

Child personality.—Child personality was assessed with an observer-rating version of the TIPI (Gosling et al., 2003). The measure was the same as for mother personality with the exception that participants were instructed to rate their child. Alpha reliabilities were .43 for Neuroticism/Emotional Stability, .38 for Extraversion, .19 for Openness, .38 for

Agreeableness, and .39 for Conscientiousness. Again, internal consistency was low because the scale was designed for maximum content coverage with just two items.

Feeding practices.—Mothers completed three subscales from the Child Feeding Questionnaire (Birch et al., 2001): Monitoring (3 items; e.g., “I keep track of the high fat foods that my child eats.” $\alpha=.88$), Restriction (8 items; e.g., “I intentionally keep some foods out of my child’s reach.” $\alpha=.83$), and Pressure to Eat (4 items; e.g., “My child should always eat all the food on her plate.” $\alpha=.79$). The internal consistency in this sample was similar to what has been found in previous research ($\alpha=.92$, .73, and .70 for Monitoring, Restriction, and Pressure to Eat, respectively; Birch et al., 2001). These subscales were chosen because these were the three subscales that measured parent attitudes and practices toward child eating behavior (in contrast to the subscales that measured perceptions of body weight). Items were rated on a 5-point Likert scale that ranged from 1 (*strongly disagree*) to 5 (*strongly agree*).

Child BMI.—Mothers reported the height and weight of their child. BMI percentile for age was determined using the Centers for Disease Control and Prevention growth charts (Kuczmarski et al., 2000). For some analyses, child BMI was categorized as percentile <85% (normal BMI weight category), percentile between 85 and <95 (overweight BMI category), and percentile BMI 95 (obesity BMI category).

Statistical Approach

We used linear regression to examine the five personality traits as predictors of the three feeding practices and child BMI. We predicted each feeding practice from mother personality, controlling for mother age, education, race/ethnicity and child age, gender, and BMI z-score. We then repeated this analysis using child personality as the predictor instead of mother personality, using the same set of covariates. To determine whether any of these associations varied by child age, gender, or BMI, we tested for an interaction between personality and each of these child characteristics.

We tested the association between mother personality and child BMI in two ways. First, we used linear regression to predict study child BMI from each trait, controlling for child age and gender and mother age, education, and race/ethnicity. Second, to examine whether there were non-linear associations between personality and BMI, we used multivariate analysis of variance to test whether there were mean-level differences in the five traits by child weight status (as percentile <85%, percentile between 85 and <95, percentile BMI 95), controlling for the same set of covariates. We then repeated these analyses using child personality as the predictor instead of mother personality. In both analyses, we compared children with overweight (percentile 85 and <95) and obesity (percentile BMI 95) to children of normal weight (percentile <85%). Finally, we tested the association between the three feeding strategies and child BMI and used the PROCESS macro (Hayes, 2013) to test whether these strategies mediated the relation between mother personality and child BMI.

Results

Descriptive statistics for the sample and study variables are shown in Table 1.

Mother personality and feeding strategies

The associations between personality (mother, child) and feeding strategies are shown in Table 2. Mother Agreeableness and Conscientiousness were associated with all three of the feeding strategies that parents often use with their children: Higher mother Agreeableness and Conscientiousness were associated with less Restriction, less Pressure to Eat, and more Monitoring. Mother Neuroticism/Emotional Stability was likewise associated with all three strategies but in the opposite direction: Higher mother Neuroticism/Emotional Stability was associated with greater Restriction and Pressure and less Monitoring. Finally, higher mother Extraversion was associated with Pressure to Eat, and higher mother Openness was associated with less Pressure and more Monitoring. Including all five traits in the analysis simultaneously reduced some of the associations to non-significance. Neuroticism/Emotional Stability remained a significant correlate of Restriction, Extraversion and Agreeableness remained significant correlates of Pressure to Eat, Openness a significant correlate of Monitoring, and Conscientiousness a significant correlate of all three strategies.

There was little indication that these associations were moderated by child age, gender, and BMI. Of the 45 interactions tested, only three were significant: Mothers Extraversion was associated with less Monitoring for their sons and more Monitoring for their daughters ($\beta_{\text{Interaction}} = .07, p < .01$) and mothers Agreeableness and Conscientiousness was associated with less Restriction when their child was at a relatively lower BMI, whereas these traits were unrelated to Restriction at a relatively higher child BMI ($\beta_{\text{Interaction}} = .05, p < .01$ for Agreeableness and $\beta_{\text{Interaction}} = .06, p < .01$ for Conscientiousness). None of these interactions were significant with a Bonferroni adjustment, and given the exploratory nature of the interactions and the number of tests, these interactions may be due to chance. Child age did not moderate any of the associations.

Child personality and feeding strategies

Somewhat similar associations emerged for child personality. Child Neuroticism/Emotional Stability was associated with higher Restriction and Pressure to Eat and less Monitoring, whereas child Extraversion, Openness, Agreeableness, and Conscientiousness were associated with less Restriction, less Pressure to Eat, and more Monitoring. None of these associations was moderated by child gender, age, or BMI. The inclusion of all five traits simultaneously reduced many of these associations to non-significance. The negative associations between Restriction and study child Openness, Agreeableness, and Conscientiousness remained significant, as did the association between Pressure to Eat and study child Extraversion, Openness, and Agreeableness and Monitoring and study child Conscientiousness. Results were similar when mother personality was included as a covariate.

Personality and child weight

The associations between personality (mother/child) and child BMI and weight categories are shown in Table 3. In the linear analysis, only one trait was associated with child BMI percentile: Mother Conscientiousness was associated with lower child BMI. For mother personality, the other four traits were unrelated to study child BMI. Study child personality was likewise unrelated to BMI when analyzed as a continuous variable. Analysis of the BMI

categories, however, suggested non-linear associations between personality and child weight. Specifically, mothers of children with overweight scored higher on both Extraversion and Agreeableness than mothers of children with normal weight or obesity. Similar to the continuous analysis, mothers of children with obesity scored lower in Conscientiousness but mothers of children with normal weight or overweight had similar Conscientiousness scores.

Compared to children with normal weight, study children with overweight scored higher on Openness and Agreeableness whereas study children with obesity scored lower on these two traits than their peers with normal weight. And, similar to mother personality, children with obesity scored lower in Conscientiousness than study children with normal weight or overweight. For both mother and child personality, the results were the same when children with a BMI percentile <5% were excused from the analyses.

Mediation

We tested whether feeding strategies mediated the association between mother Conscientiousness and study child BMI (the only trait with a linear association with study child BMI; Table 4). Restriction was associated positively and Pressure to Eat was associated negatively with child BMI, whereas Monitoring was unrelated to it. Two feedings strategies emerged as significant mediators: Mother Conscientiousness was associated with less Restriction and less Pressure to Eat, which, in turn, were associated with lower child BMI. Monitoring was not a significant mediator of this association.

Discussion

The present research examined the association between personality and feeding strategies and child BMI. Personality characteristics of both the mother and the child were associated with three feeding strategies (Restriction, Pressure to Eat, and Monitoring) that mothers used with their children. Of note, despite the large age range, there was no evidence that child age moderated the relation between personality and these three feeding strategies, which suggests that even if there are mean-level differences in feeding strategies by child age, the relation with personality remains similar between ages 4 and 12. Further, children with obesity had mothers who scored lower in Conscientiousness and their mothers also rated these children lower in Conscientiousness. There was also evidence that Restriction and Pressure to Eat mediated the association between mother Conscientiousness and child BMI.

Feeding strategies are an important part of the child's food environment; children often rely on their parents to provide food and regulate intake. Such strategies have been associated with development of the child's food preferences (Ventura & Birch, 2008) and their own eating strategies (Faith et al., 2004). Previous research has suggested that characteristics of the mother (McPhie et al., 2014) and the child (Haycraft & Blissett, 2012) shape the extent to which specific feeding strategies are used. The present research indicates that personality is also associated with feeding strategies. Mothers reported less use of restrictive and pressuring strategies for their open and agreeable children. In adulthood, Openness is associated consistently with eating a wide variety of foods, especially foods such as fruits and vegetables (Möttus et al., 2012). Agreeableness is likewise associated with consumption

of healthier foods in adulthood (Möttus et al., 2013). Perhaps children who are open or agreeable willingly consume healthier foods and parents thus do not need to regulate intake because their children already eat a wide variety of food. Child Conscientiousness was also associated with less use of Restriction, again perhaps because individuals higher in Conscientiousness tend to make healthier food choices (Möttus et al., 2012). Future research is needed to document whether personality is also associated with the food choices of children.

Conscientiousness in adulthood has been associated consistently with better weight outcomes (Jokela et al., 2013). The present research suggests that there is a small intergenerational association, such that mother's who score higher in Conscientiousness have children who have lower BMI. Conscientiousness tends to be associated with healthier eating and physical activity habits (Sutin & Terracciano, 2016). Mothers high on this trait may create an environment and/or be role models that encourage these healthier habits in their children. Children who score higher in Conscientiousness-related traits also tend to weigh less and gain less weight across childhood (Duckworth et al., 2010; Sutin et al., 2017). In the present study, there was evidence for a non-linear association between child Conscientiousness and BMI: Children with obesity were rated as less conscientious. It may be the case that there is an association between child Conscientiousness and weight. It may also be the case that this association is biased by stereotypes of obesity. There are strong stereotypes of obesity (e.g., lazy, lacks discipline; Puhl & Heuer, 2010). Mothers may use these stereotypes when making judgments about their child's Conscientiousness. Body weight is a salient characteristic of the child, and, for a child with obesity, mothers may evaluate their child based, in part, on stereotypes of children with obesity. And indeed, parents often make subjective evaluations of their child's body weight that may or may not be accurate (Lundahl, Kidwell, & Nelson, 2014).

Contrary to our hypothesis, there was little evidence that Neuroticism/Emotional Stability, either parent or child, was associated with feeding strategies or child BMI. The only independent association between this trait and feeding strategies was for mother Neuroticism/Emotional Stability and Restriction. In adulthood, individuals who score higher in Neuroticism/Emotional Stability tend to engage in more restrictive eating (Heaven et al., 2001). The tendency to restrict food intake for oneself may also lead to greater restriction of the child's food intake. It was also surprising that neither mother nor child Neuroticism/Emotional Stability was associated with child BMI. The negative emotionality of the child, a temperamental trait closely related to Neuroticism/Emotional Stability, has been associated with greater weight gain across childhood (Sutin et al., 2017). We had expected to see a similar association for child Neuroticism/Emotional Stability and an intergenerational effect of mother's Neuroticism/Emotional Stability.

The present study had several strengths, including a large national sample and measures of mother and child personality. There are also several limitations that could be addressed in future research. First, mothers reported on all of the measures in this study. It would be worthwhile to obtain observer ratings of personality from other adults and self-reports of personality from the children themselves and objective measures of child height and weight in future research. Second, the measure of personality was brief. Although a well-validated

scale (Ehrhart et al., 2009; Gosling et al., 2003), such a short personality measure necessarily does not include all aspects of these broad traits. A more detailed measure would be helpful to replicate current findings and identify which aspects of the traits are most associated with feeding strategies and body weight. Further, the alpha reliability of the personality scales were low, although the TIPI was designed to maximize construct coverage with just two items, so the low reliabilities are a consequence of this design (Gosling et al., 2003). Third, the data are crosssectional, and longitudinal data are needed to help identify the temporal ordering of the variables. It is unlikely, however, that parent feeding strategies or the child's BMI would have an effect on parent personality, given the stability of personality traits in adulthood (Terracciano, Costa, & McCrae, 2006). This issue may be of greater interest for the child's personality development. Future research could disentangle this potential effect. Finally, we only examined three specific feeding strategies. Future research could expand on these findings and test a broader range of strategies.

Despite these limitations, the present research suggests that mother personality is associated with three feeding strategies – Restriction, Pressure to Eat, and Monitoring – used with the child and that there is an intergenerational association between mother's Conscientiousness and child's BMI. It indicates that the personality of both the mother and the child are additional factors to consider when addressing feeding strategies. Thus, it may be important to consider this aspect of the psychological environment in addition to the established demographic, environmental, and attitudinal correlates of feeding strategies when developing interventions. The present research thus indicates that individual differences in mother and child personality shape, in part, the use of Restriction, Pressure to Eat, Monitoring in childhood.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1:

Descriptive Statistics for all Study Variables

Variable	Mean (SD) or %
Mother age (years)	35.67 (9.07)
Mother education ^a	3.35 (1.18)
Race/ethnicity	
White	64%
African American	18%
Hispanic	10%
Asian	4%
Multiracial	3%
Other/unknown	1%
Child age (years)	7.59 (2.46)
Child gender (female)	50%
Child BMI z-score	.50 (2.11)
<85 th percentile	59%
85 th -<95 th percentile	14%
95 th percentile	27%
Feeding Strategies ^a	
Restriction	3.36 (.87)
Pressure to eat	2.97 (1.02)
Monitoring	3.63 (.85)
Mother personality ^a	
Neuroticism/Emotional Stability	2.71 (.91)
Extraversion	2.99 (.97)
Openness	3.52 (.85)
Agreeableness	3.65 (.81)
Conscientiousness	3.81 (.85)
Child personality ^a	
Neuroticism/Emotional Stability	2.63 (.91)
Extraversion	3.57 (.90)
Openness	3.74 (.82)
Agreeableness	3.73 (.86)
Conscientiousness	3.35 (.89)

Note. $N=2,928$. ^a Education was reported on a scale from 1 (less than high school) to 6 (professional/advanced degree; 3 corresponds to an associate's degree).

^aThe scores are the mean across the items in the scale.

Table 2:

Association Between Personality (Mother, Child) and Feeding Strategies

	Feeding Strategy		
	Restriction	Pressure to Eat	Monitoring
Mother Trait			
	.08 ** <i>a</i>	.07 **	-.08 **
Neuroticism/Emotional Stability			
Extraversion	-.01	.04 ** <i>a</i>	.01
Openness	.00	-.07 **	.12 ** <i>a</i>
Agreeableness	-.05 **	-.11 ** <i>a</i>	.06 **
Conscientiousness	-.09 ** <i>a</i>	-.16 ** <i>a</i>	.11 ** <i>a</i>
Child Trait			
	.10 **	.08 **	-.05 **
Neuroticism/Emotional Stability			
Extraversion	-.01	-.14 ** <i>a</i>	.04 *
Openness	-.10 ** <i>a</i>	-.19 ** <i>a</i>	.08 **
Agreeableness	-.15 ** <i>a</i>	-.16 ** <i>a</i>	.08 **
Conscientiousness	-.12 ** <i>a</i>	-.06 **	.09 ** <i>a</i>

Note. $N=2,928$. Coefficients are standardized betas from linear regression predicting each feeding strategy from personality, controlling for mother age, mother education, race/ethnicity, child age, child gender, and child BMI z-score.

^a Coefficient remained significant when additionally controlling simultaneously for the other four personality traits.

* $p < .05$.

** $p < .01$.

Table 3:

Association between Personality (Mother, Child) and Child Body Mass Index

Personality	BMI Percentile Category			BMI z-score
	<85	85-<95	95	
Mother trait				
	2.71 (.02)	2.67 (.04)	2.74 (.03)	.01
Neuroticism/Emotional Stability				
Extraversion	2.98 (.02)	3.09 (.05) *	2.97 (.04)	.01
Openness	3.52 (.02)	3.59 (.04)	3.48 (.03)	-.01
Agreeableness	3.65 (.02)	3.76 (.04) *	3.60 (.03)	.00
Conscientiousness	3.85 (.02)	3.85 (.04)	3.71 (.03) *	-.05 **
Child Trait				
	2.62 (.02)	2.53 (.04)	2.68 (.03)	.00
Neuroticism/Emotional Stability				
Extraversion	3.58 (.02)	3.64 (.04)	3.52 (.03)	.01
Openness	3.75 (.02)	3.86 (.04) *	3.67 (.03) *	-.01
Agreeableness	3.74 (.02)	3.84 (.04) *	3.64 (.03) *	-.01
Conscientiousness	3.37 (.02)	3.37 (.04)	3.29 (.03) *	-.02

Note. $N=2,928$. For BMI percentile category, coefficients are estimated marginal means controlling for mother age, mother education, race/ethnicity, child age, and child gender. For BMI z-score, coefficients are standardized beta coefficients controlling for mother age, mother education, race/ethnicity, child age, and child gender.

* $p<.05$.

** $p<.01$.

Table 4:

Mediation of the Relation Between Mother Conscientiousness and Child Body Mass Index Through Feeding Strategies

	Point Estimate	SE	Bias-corrected 95% CI
Path <i>a</i>			
Mother Conscientiousness → Restriction (path a)	-.10**	.02	
Mother Conscientiousness → Pressure (path a)	-.19**	.02	
Mother Conscientiousness → Monitoring (path a)	.11**	.02	
Path <i>b</i>			
Restriction → Child BMI z-score	.30**	.05	
Pressure → Child BMI z-score	-.31**	.04	
Monitoring → Child BMI z-score	.02	.04	
Path <i>c</i>			
Mother Conscientiousness → Child BMI z-score	-.12**	.05	
Path <i>c</i> '			
Mother Conscientiousness → Child BMI z-score	-.15**	.05	
Indirect Effect			
Through Restriction	-.03	.01	-.05, -.02
Through Pressure	.06	.01	.04, .08
Through Monitoring	.00	.01	-.01, .01

Note. *N*=2,928. BMI=body mass index.

**
p<.01.