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# Parental and Child Characteristics Predicting Asian immigrants' Feeding Practices

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## Abstract

*Objectives* To explore parenting style, child effortful control and parenting stress and their associations with maternal use of pressure to eat among Asian U.S. immigrant families with preschoolers. *Methods* One hundred and nine Asian immigrant mothers with 3-to-5-year old children in Maryland, U.S. rated their authoritative and authoritarian parenting styles, frequency of pressuring their child to eat, perceived parenting stress, and child's effortful control. Two proposed moderated mediation models were tested using conditional process modeling. *Results* Effortful control partially mediated the association between authoritative style and pressure to eat,  $\alpha\beta = -.07, p < .05$ , but fully mediated the association between authoritarian style and pressure to eat,  $\alpha\beta = .12, p < .05$ . Moreover, parenting stress moderated the association between child effortful control and maternal pressure to eat in the authoritarian style model, but not authoritative style. Specifically, higher effortful control was associated with less use of pressure to eat at low and mean levels of parenting stress. *Conclusions* Our findings revealed potential mechanisms underlying the associations between parenting styles and controlling feeding practices. Importantly, information learned from the present study may guide transdisciplinary efforts to design and implement culturally sensitive and family-based interventions targeting Asian immigrants' wellbeing and obesity in the U.S.

**Keywords:** Developmental perspectives, parenting style, parent stress, race/ethnicity, pressure to eat

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**Highlights**

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- This study examined the underlying mechanisms associated with the use of controlling feeding practices in Asian U.S. immigrant families with preschoolers.

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- Child effortful control mediated the associations between parenting styles and pressure to eat.

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- Parenting stress moderated the association between child effortful control and maternal pressure to eat in the authoritarian style model only.

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# **Parental and Child Characteristics Predicting Asian immigrants' Feeding Practices**

## **Introduction**

Childhood obesity is a critical public health threat in the U.S. Over the past three decades, the childhood obesity rate has doubled for preschool children in the United States (Institute of Medicine, 2005). Nearly one-third of Chinese American children and 22% of Korean American children are at risk for obesity (Ogden et al., 2006; Park et al., 2015). Asians have more severe health consequences when overweight than individuals of European descent with the same BMI, including a higher risk of developing chronic diseases, cardiovascular disease, and Type 2 diabetes mellitus (e.g., Chang et al., 2003). Moreover, Asian Americans are the second-largest immigrant population in the U.S. (Batalova, 2011), and the fastest growing ethnic minority group in the United States (U.S. Census, 2011). Despite these increasing numbers and the clear risks associated with obesity, Asian immigrant children have been overlooked in the obesity literature.

Although there are biological predispositional causes of obesity, emerging research suggests that a transdisciplinary understanding of childhood obesity is needed through examinations of developmental mechanisms involving parent and child characteristics related to children's eating and diet (Harrist et al., 2012). Parents can shape their young children's eating behaviors and food consumptions through their employed feeding practices. Pressure to eat, a commonly used form of controlling feeding practices, has been found to be significantly associated with preschool children's fussy eating behaviors (Jansen et al., 2017), eating in the absence of hunger (Galindo et al., 2018), and more consumption of unhealthy food (Zhou, Cheah, Li, Liu & Sun, 2018) but less fruit and vegetable or the food preferred by parents (Wardle, Carnell, & Cooke, 2005). However, the mechanisms that may contribute to pressure to eat practices are rarely examined. Importantly, Patrick and colleagues (2013) pointed out that explorations of the role of parenting styles are greatly needed in understanding parental feeding practices, as parenting style creates the emotional climate within which feeding practices are applied (Blisset, 2011; Darling & Steinberg, 1993). Belsky's (1984) parenting process model suggests that child characteristics and contextual sources of stress are also important factors that determine parenting. Therefore, the present study is an initial step to explore how two different parenting styles, child temperamental characteristics and parenting stress contribute to maternal pressure to eat feeding practices among Asian U.S. immigrant families with preschoolers.

## **Maternal Feeding Practices: Pressure to Eat**

Maternal feeding practices may impact children's weight status through shaping their eating behaviors from early childhood, which can have a lifelong impact on their self-regulatory abilities related to eating and weight control (Black, 1999). Pressure to eat is a highly controlling feeding practice that is frequently seen within Asian, particularly Chinese, cultures. For instance, a focus group study with Chinese immigrant mothers found that more than half of the mothers indicated pressuring their child to eat when their child refused to eat certain type of foods or finish a specified amount of meal (Zhou, Cheah, Van Hook, Thompson, & Jones, 2015). Also, these mothers discussed using culturally-specific ways to pressure their child to eat, such as spoon-feeding and using social comparison. Moreover, the past food experiences of Chinese immigrant families in the U.S. were significantly correlated with mothers' pressuring to eat practices (Zhou et al., 2018). However, there is very limited literature on Asian immigrants' use of such practices.

The detrimental effects of highly controlling feeding practices, such as pressure to eat, have been reported to increase the risk for child adiposity (Cachelin et al., 2013; Ventura & Birch, 2008). Young children learn to control the amount of food they eat based on internal cues and satiety effects (Carper, Fisher, & Birch, 2000; Kaiser et al., 2001). Parents' pressuring of children to eat creates an unpleasant eating environment and disrupts children's ability to regulate their own food intake. Recent studies suggested that pressure to eat may not directly contribute to child weight and eating, but the nature of pressure and eating prompts is an important contributor to child eating and weight (Galindo et al., 2018; Lumeng et al., 2012). Thus, it is important to understand the mechanism through which parenting and child characteristic increases the likelihood of parents' use of pressure to eat among Asian immigrants in the U.S. Specifically, we focused on examining the mediating role of child effortful control and the moderating role of parenting stress in the associations between overall parenting styles and maternal use of pressure to eat.

## **Parenting Styles**

Unlike parenting practices, which address what parents do, parenting styles capture *how* parents interact with their children and reflect the emotional and relational climate parents created in which parents' practices are expressed and socialize their child (Patrick, Hennessy, McSpadden, & Oh, 2013). Authoritarian parents are described as controlling, demanding, relatively unresponsive to the child, and less warm (Baumrind, 1971). In contrast, authoritative parents combine reasoning-oriented regulative and autonomy granting practices, accompanied by warmth and acceptance. Asian and Asian American parents are often characterized as low in warmth and harsh

in their parenting (Juang, Qin, & Park, 2013). Specifically, Asian American parents appear to endorse more authoritarian control, power-assertion and close supervision of children than do European American parents (e.g., Jose, Huntsinger, Huntsinger, & Liaw, 2000).

Authoritarian and authoritative parenting styles have been widely investigated in relation to child outcomes, including childhood obesity risk (e.g., Francis & Susman, 2009; Yavuz & Selcuk, 2018). Parenting styles have been proposed and examined as a pre-cursor to specific parenting practices, which in turn may influence child health-related outcomes (Patrick et al., 2013; Sebire et al., 2016; Sleddens et al., 2011). That is, parenting styles, as a broad parenting construct not tied to specific interaction goals, may spill over to the more specific parenting practices parents engage in when interacting with their children; thus, the global influences of parenting style provide a framework to guide which specific feeding practices are more likely to be engaged in (Patrick et al., 2013; Rhee, 2008). Parents who generally exhibit an authoritarian parenting style that is high in control and low in warmth are more likely to exert highly restriction and power assertive practices, including with regard children's eating. Emerging evidence suggests that authoritarian parents have been shown to utilize more restriction and pressure in their feeding practices than authoritative parents with children aged under 12 (Huang et al., 2012; Mitchell et al., 2009). Authoritative parenting style was found to be associated with lower use of pressure to eat for parents with preschoolers (Blissett & Haycraft, 2008), but the authoritarian parenting style was related to more parental pressure to eat practices in parents with 7-year-old children (Duke, Bryson, Hammer, & Agras, 2004). These mediating and moderating processes that may shed light on mechanisms that can further explain the associations between overall parenting styles and more specific feeding practices are understudied (Brann & Skinner, 2005), particular in non-White samples. Therefore, the current study examined the mediating role of child temperament and the moderating role of parenting stress in the associations between overall parenting styles and parental pressuring of the child to eat, in an Asian immigrant sample in the United States.

### **Child Temperamental Characteristics: Effortful Control**

Children's temperamental characteristics have been shown to be a critical determinant of parent-child interactions. However, the contributions of child temperament have been neglected in research examining parental feeding practices (Bergmeier et al., 2013). Children's effortful control, defined as their capacity to refrain from a desired behavior, maintain attention on a task, and resist distraction, may be important for regulating children's eating (Rothbart & Putnam, 2002). Research has consistently shown that parenting styles and related dimensions of

parenting styles are associated with children's development of effortful control. For example, parental responsiveness, warmth, clear and consistent limit setting have been found to predict higher levels of effortful control in children, whereas authoritarian and punitive parenting have been associated with lower levels of effortful control (Eisenberg et al., 2009; Karreman, van Tuijl, van Aken, & Dekovic, 2008; Lengua, Honorado, & Bush, 2007; Zhou et al., 2004). Moreover, child temperamental effortful control tended to influence the approach parents took toward children in feeding the environment. Preschooler's effortful control predicted their parents' use of controlling feeding strategies, such as restriction and pressure to eat (Hughes & Shewchuk, 2012; Liew et al., 2020). Specifically, children with low levels of effortful control likely to elicit parental pressure to eat (Liew et al., 2020). Also, parents who believe their 3-to-9-year old children are better at self-regulating their eating tend to use less controlling feeding practices (Tan & Holub, 2011). Therefore, child effortful control was examined as a potential mediator in the relation between parenting styles and pressure to eat in the present study.

## **Parenting Stress**

Although certain child characteristics may elicit highly controlling practices, parenting stress may impair parents' ability to respond to children's characteristics. Parenting stress is defined as the perceived discrepancy between the demands of parenting and resources available to meet those demands (Abidin, 1995). Asian immigrant parents tend to experience higher levels of parenting stress compared to native-born parents (Shin et al., 2009). High parenting stress may place parents in anxious and distressed emotional states, and parents tend to be more irritable in such emotional states and automatically react to child undesired behaviors in a coercive way (Belsky, 1993; Deater-Deckard, 1998). Child temperament may interact with parenting stress to affect parenting (McQuillan & Bates, 2017). For instance, when mothers are raising a difficult child and experiencing higher levels of stress, they may tend to use more reactive, harsh parenting practices (Martorell & Bugental, 2006). Thus, a stressful parenting environment can increase the likelihood of parents responding to difficult or undesired child characteristics with ineffective practices. On the contrary, parents who are less stressed may have more resources to attend to child positive characteristic or respond to child misbehavior by using less coercive parenting (McQuillan & Bates, 2017). Similarly, in mother-child eating-related interactions, high parenting stress may create high negative emotional states, which may disrupt mothers' ability to respond to child regulatory temperamental characteristics and employ more coercive feeding practices, such as pressure to eat. For young children, particularly, child effortful control has been found to be a crucial temperamental characteristic for regulating food intake in the context of a chaotic and

stressful home environment (Leung et al., 2014). However, no research has examined the possible moderating role of parenting stress in the relation between child effortful control and parents' use of pressure to eat practices, particularly among Asian immigrant families.

#### **The Present Study**

We aimed to examine the mediating role of child effortful control and the moderating role of parenting stress in the associations between overall parenting styles and pressure to eat in Asian immigrant families in the U.S. (see Figure 1). The parenting styles of authoritarian and authoritative were assessed separately in two moderated mediation models. Specifically, we examined: (1) the *direct effects* of authoritarian and authoritative parenting styles on maternal use of pressure to eat practices; (2) the mediating role of child effortful control in these associations (*indirect effects*); and (3) the moderating role of mothers' perceived parenting stress in these mediation processes (*conditional indirect effects*).

### **Methods**

#### **Participants**

A total of 109 Chinese and Korean first-generation immigrant mothers ( $M = 38.91$ ,  $SD = 4.07$ ) of preschoolers ( $M = 4.59$ ,  $SD = .98$ ; 42.5% boys) residing in Maryland, U.S., participated in the study (see Table 1). There were 49 Chinese and 60 Korean immigrant mothers, and these mothers had been in the U.S. for an average of 12.11 years ( $SD = 7.55$ ). The mothers were predominantly well-educated.

#### **Procedure**

Participants were recruited from preschools, churches, businesses, and community-based organizations in Maryland. The authors' University Institutional Review Board provided ethical approval for the study (Protocol # [Blinded]). All the immigrant families were visited in their homes by research assistants who were fluent in the families' language and dialect of choice (Chinese: Mandarin or Cantonese; Korean; English). During the home-visits, signed informed consents were obtained to indicate families' voluntary participation in completing the surveys and being measured for their height and weight. Mothers reported on their use of pressuring their child to eat practices, parenting styles, perceived parenting stress, and child effortful control. Research assistants weighed children on digital scales (A&D Precision Personal Health Scale UC-321, Japan) and measured their standing height using stadiometers (Charder HM200P Portstad Portable Stadiometer, Taiwan) per CDC instructions (for more details please visit: [https://www.cdc.gov/healthyweight/assessing/bmi/childrens\\_bmi/measuring](https://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/measuring)



\_children. html). Children's height and weight measurements were converted to BMI percentile. The average BMI percentile in our sample was about 61th percentile, and 22% of the sample had BMIs higher than 85th percentile which is the cut-off for being overweight (WHO MGRSG, 2006).

#### Measures

Most of the measures were available in the Chinese and Korean languages from previous studies. Measures that were originally only available in English were translated by bilingual researchers into Chinese and Korean and back-translated following the multi-step translation procedure to ensure the translation accuracy as recommended by Peña (2007). All measures have been previously used and demonstrated adequate reliability and validity in Asian samples.

**Pressuring the child to eat.** The pressuring the child to eat subscale of the Child Feeding Questionnaire (CFQ; Birch et al., 2001) was used to measure mothers' reported use of pressure their child to eat. The CFQ is the most frequently used and validated tool to measure maternal feeding practices, and the pressure to eat subscale has been validated in Asian immigrant samples (e.g., Liu, Mallan, Mahrshahi, & Daniels, 2014; Vu, Cheah, Sun, Zhou, & Xue, 2020). Mothers rated four items on a 5-point scale ranging from 1 (*disagree*) to 5 (*agree*). A sample item includes, "My child should always eat all of the food on his/ her plate." The final score for pressure to eat was the mean of the 4 items. The Cronbach's  $\alpha$  for pressure to eat was .73 in the present study.

**Parenting styles.** The modified version of Parenting Styles and Dimensions Questionnaire (PSDQ; Robinson et al., 2001) was used to assess mothers' authoritarian and authoritative parenting styles. The PSDQ was designed to measure parenting styles and dimensions, and has demonstrated good reliability, and concurrent validity, predictive validity and structural validity empirically across many cultural samples (Olivari, Tagliabue, & Confalonieri, 2013). The authoritarian parenting style dimension contains 11 items measuring mothers' physical coercion (e.g., "Grabs child when being disobedient"), verbal hostility (e.g., "Yells or shouts when child misbehaves") and non-reasoning/ punitive (e.g., "Punishes by putting child off somewhere alone with little if any explanations"), and the authoritative parenting style dimension contains 15 items to measure mothers' warmth/ acceptance (e.g., "Gives praise when child is good"), reasoning/ induction (e.g., "Talks it over and reasons with child when the child misbehaves"), and democratic participation (e.g., "Takes child's desires into account before asking the child to do something"). All the items were rated on a 5-point scale ranging from 1 (*never*) to 5 (*always*),

and the scores for both parenting styles were the means of the corresponding items. The Cronbach's  $\alpha$ s for the authoritarian and authoritative parenting style dimensions were .84 and .90, respectively in the present study.

**Child effortful control.** The Children's Behavior Questionnaire (CBQ; Rothbart, Ahadi, Hershey, & Fisher, 2001) was used to measure children's temperamental effortful control characteristics. The CBQ is the most widely used parent-report measure of young children's temperament. This measure has demonstrated good reliability, construct validity and structural validity across various cultures (Rothbart et al., 2001; Putnam & Rothbart, 2006). Attentional focusing and inhibitory control subscales are the two most theoretically and empirically salient components of effortful control when using the CBQ measure (Eisenberg, Smith, & Spinrad, 2011; Olson, Sameroff, Kerr, Lopez, & Wellman, 2005). The mean of 18 items was used to capture children's attentional focusing (e.g., "Has difficulty leaving a project s/he has begun") and inhibitory control (e.g., "Is usually able to resist temptation when told s/he is not supposed to do something"), in order to create the overall effortful control construct. Each item was rated on a 7-point scale, ranging from 1 (*extremely untrue*) to 7 (*extremely true*). The Cronbach's  $\alpha$  for child effortful control was  $\alpha = .84$  in the present study.

**Parenting stress.** Mothers' perceived daily hassles and inconveniences associated with various tasks related to parenting or challenging child behavior was assessed using the Parenting Daily Hassles (PDH; Crnic & Booth, 1991). The PDH has shown good reliability and structural validity (Cheah et al., 2016; Taylor, 2019). The PDH consists of 20 items, and mothers rated the frequency with which each daily hassle event occurs on a 5-point scale, ranging from 1 (*never*) to 5 (*constantly*). A sample item is, "How often do you have mealtime difficulties (picky eaters, complaining, etc.)." The total score for perceived parenting stress was the sum of the 20 items. The Cronbach's  $\alpha$  for perceived parenting stress was .89 in the present study.

## Data Analyses

The missing data rate was 1.8% in the raw dataset, and was found to be missing completely at random (MCAR) with Little's (1998) MCAR test,  $\chi^2(713) = 713.34, p = .49$ . When we computed the means of the variables, we used mean computation to replace the missing values. Due to the nature of the self-reported data, we employed Harman's one-factor test to detect the potential seriousness of common method variance. No serious common method bias problem was found in the data of the present study (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Two proposed moderated mediation models were tested using conditional process modeling in SPSS 22 PROCESS Macro, developed by Hayes (2012). Child BMI percentile was examined as a covariate. In addition, a

bootstrapping approach was adopted to test the conditional indirect effects, which generated the confidence intervals for the conditional indirect effects through resampling 5,000 random samples (Preacher, Rucker, & Hayes, 2007).

### Results

Zero-order correlations and descriptive statistics of the study variables are presented in Table 2. Pressure to eat was negatively associated with authoritative parenting style and child effortful control, but positively associated with parenting stress. Authoritarian parenting style was negatively associated with child effortful control but positively associated with parenting stress, and authoritative style was positively correlated with effortful control.

For authoritarian parenting style, the proposed moderated mediation was found,  $R^2 = .23$ ,  $F(5, 103) = 6.00$ ,  $p < .001$ . Specifically, the direct effect of authoritarian parenting style on maternal pressure to eat practices was not significant,  $c' = .26$ ,  $t = 1.58$ ,  $p = .12$ , but the interaction between child effortful control and parenting stress was significant (see Figure 2). When plotting the interaction between effortful control and parenting stress, higher child effortful control was associated with less use of maternal pressure to eat practices at low and mean levels of parenting stress (see Table 3). However, when parenting stress was high, the line of simple effect was almost parallel with the x-axis, showing no effect (see Figure 3).

For authoritative parenting style, the proposed moderated mediation was not supported,  $R^2 = .26$ ,  $F(5, 103) = 7.17$ ,  $p < .001$ . As shown in Figure 4, the interaction between child effortful control and parenting stress was not significant. An alternative mediation model was then tested by removing the moderator, parenting stress, and the interaction term. A partial mediation was found, where authoritative parenting style was significantly indirectly associated with maternal pressure practices to eat through child effortful control,  $ab = -.09$ , bootstrapped 95% confidence interval is  $[-.19, -.03]$ . Moreover, the direct effect of authoritative parenting style on pressure to eat practices remained significant,  $c' = -.31$ ,  $t = -2.66$ ,  $p < .01$ .

### Discussion

The present study explored the mechanisms through which Asian immigrant mothers' parenting styles may be associated with their use of pressure to eat in the U.S. Guided by Belsky's (1984) determinants of parenting model, specifically, we examined the direct effects of parenting styles on pressure to eat practices, the mediating role of child effortful control in these associations, and the moderating role of maternal parenting stress in the mediation processes. Importantly, our findings revealed potential significant mechanisms that further explain the underlying associations between overall parenting styles and pressure to eat practices. Specifically, children's

1 effortful control was found to fully mediate the association between authoritarian style and pressure to eat practices,  
2 but only partially mediate the association between authoritative style and pressure to eat. Consistent with previous  
3 research, authoritarian mothers may place direct external control on children's emotion and behaviors, which may  
4 undermine children's ability to self-regulate (Eisenberg et al., 2009; Zhou et al., 2004). Children's dysregulated  
5 temperament may further elicit high pressure and coercive parenting practices in the eating context.

6         The authoritative parenting style, characterized by warmth, structure, and autonomy promotion, was  
7 associated with mothers' decreased use of practices that pressure their child to eat, suggesting the possible beneficial  
8 influence of the broader emotional climate of an authoritative parenting style within the specific domain of food-  
9 related parent-child interaction (Blissett & Haycraft, 2008). Mothers' warm and autonomy-granting practices along  
10 with guidance can help children regulate their own emotions appropriately and internalize maternal requests for  
11 desirable behaviors (Trommsdorff, 2012), resulting in higher child effortful control. In turn, when mothers  
12 perceived their child to have better regulative abilities, they used less pressure to eat practices. In the context of  
13 authoritative parenting style, parenting stress did not moderate the link between child effortful control and maternal  
14 pressure to eat practices. Mothers who engage in an authoritative parenting style may be less affected by a stressful  
15 context, perhaps because mothers who are supportive and attentive to their children's characteristics may be  
16 predisposed to not using controlling practices or possess additional strengths or resources that lead them to continue  
17 to promote children's internal regulation during food-related interactions, regardless of their perceived levels of  
18 stress.

19         In contrast, in the context of an authoritarian parenting style characterized by high demandingness and low  
20 responsiveness to the child, children's greater effortful control abilities was associated with mothers' lower use of  
21 practices that pressure their child to eat, *only* when their mothers perceived facing low or moderate levels of stress.  
22 These findings indicate that when mothers were able to manage the demands of parenting with minimal or moderate  
23 stress, mothers who were authoritarian in their overall parenting style were still likely to recognize their children's  
24 ability to self-regulate and therefore enforce less pressure in feeding-specific practices. However, when these  
25 mothers were experienced high levels of parenting stress, they appeared to have challenges responding to their  
26 children's self-regulatory ability and more likely to resort to the use of highly controlling feeding practices with their  
27 children. Asian immigrant mothers are often depicted as being more authoritarian. However, parenting stress has

been found to be associated with more coercive parenting practices in Asian immigrant mothers (Cheah et al., 2016), which imply that authoritarian mothers may be more susceptible to parenting stress than authoritative mothers.

### Limitations

Our findings need to be interpreted in light of several limitations. First, the cross-sectional data and design preclude the determination of temporal relations between parenting and parent and child characteristics. Thus, a longitudinal design in future studies is needed in order to establish the proposed temporal associations between these variables. Second, only maternal-reported data was used, and inclusion of observational data in naturalistic or laboratory settings should be considered in the future to more objectively assess each of these parenting and child constructs. Third, Chinese and Korean immigrants were considered as a single group, because of their shared cultural values and traditions rooted in Confucianism. However, the two groups should be examined separately to uncover potential group-specific feeding-related processes (Cheah et al., 2016). Moreover, future studies should consider including culturally-specific parenting constructs when examining Asian immigrants, such as the notion of “guan,” which is defined as “to care for” or “to love” as well as “to govern”, in order to capture the important features of Asian child-rearing more comprehensively (Chao, 1994). The role of culturally-emphasized pressuring to eat feeding practices, such as spoon-feeding and social comparison (Zhou et al., 2015), in these associations should also be explored. Last, family income was not obtained and only maternal education was included as a covariate in the analysis. Thus, future research should consider including SES along with educational level to obtain a more comprehensive assessment of SES to better understand the role of socioeconomic context in family functioning within the domain of parent-child food-related interactions.

Despite these limitations, the present study represents a significant step towards understanding how child characteristics may play a role in both parenting styles and practices within this understudied but rapidly growing population. Also, our study responded to calls to integrate the concept of parenting styles in understanding parenting practices and child eating (Patrick et al., 2013). Our study revealed complex associations among these variables that differed for each specific parenting styles. Moreover, we demonstrated children’s own contributions to their feeding experiences. Importantly, information learned from the present study may guide transdisciplinary efforts (Harrist et al., 2012) to the design and implementation of culturally sensitive and family-based interventions that promote well-being and the prevent obesity among Asian immigrant families.

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## 1 Table 1

2 *Demographic information of the sample*

	Asian immigrant mothers (N = 109)
Average maternal age ( <i>SD</i> )	38.91 (4.07)
Average child's age ( <i>SD</i> )	4.59 (.98)
Child Gender	
Male	42.5%
Female	57.5%
Ethnic Group	
Chinese	45%
Korean	55%
Number of the children in the family	
One	18.3%
Two	56.9%
Three or more	24.8%
Maternal education	
Partial college or lower	15.1
University graduate	34.9%
Graduate degree	50%
Marital Status	
Married	100%
Years in the U.S. ( <i>SD</i> )	12.11 (7.55)

3

4

1 Table 2

2 *Descriptive statistics of study variables and zero-order correlations among the variables*

	Correlations					<i>M(SD)</i>
	1	2	3	4	5	
1. Authoritarian parenting style	-	-.22*	-.28**	.40**	.16	1.82 (0.45)
2. Authoritative parenting style		-	.27**	.12	-.32**	3.83 (0.58)
3. Child effortful control			-	-.31**	-.24*	4.82 (0.68)
4. Parenting stress				-	.31**	52.66 (12.40)
5. Pressure to eat					-	3.50 (0.89)

3 Note. \* $p < .05$ , \*\* $p < .01$ 

4

Table 3

*Conditional indirect effect of authoritarian parenting style (X) on pressure to eat (Y)*

	Parenting Stress (V)	Effect	SE	Bootstrapped 95% Confidence Interval
Mean of V – 1 SD	40.26	.15	.09	[.003, .36]*
Mean of V	52.66	.09	.05	[.01, .23]*
Mean of V + 1SD	65.05	.02	.04	[-.04, .13]

*Note.* \*If the 95% bootstrapped confidence interval did not include 0, the conditional indirect effect was significant.

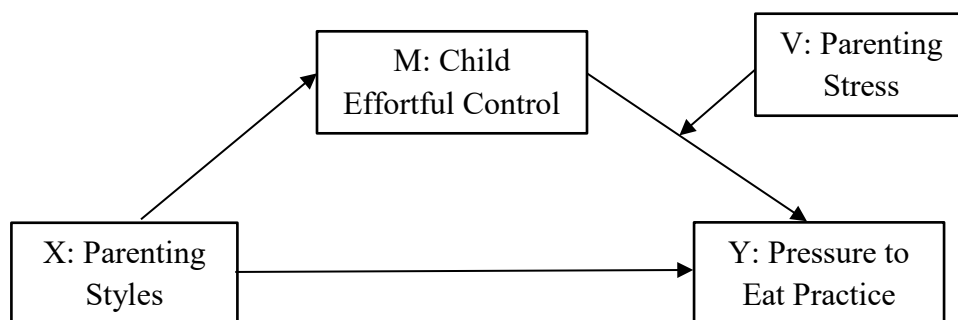


Figure 1. Proposed conceptual moderated mediation model.

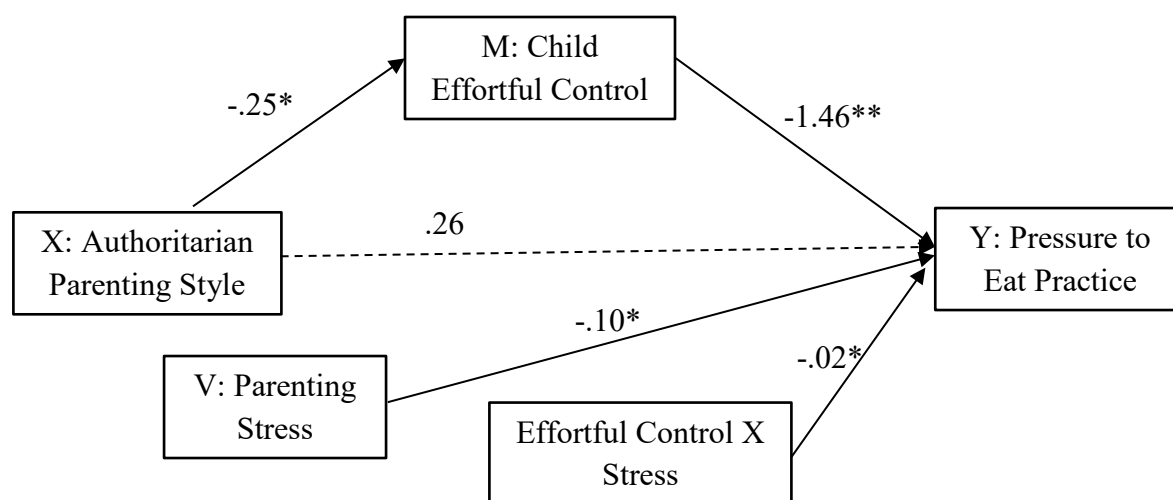
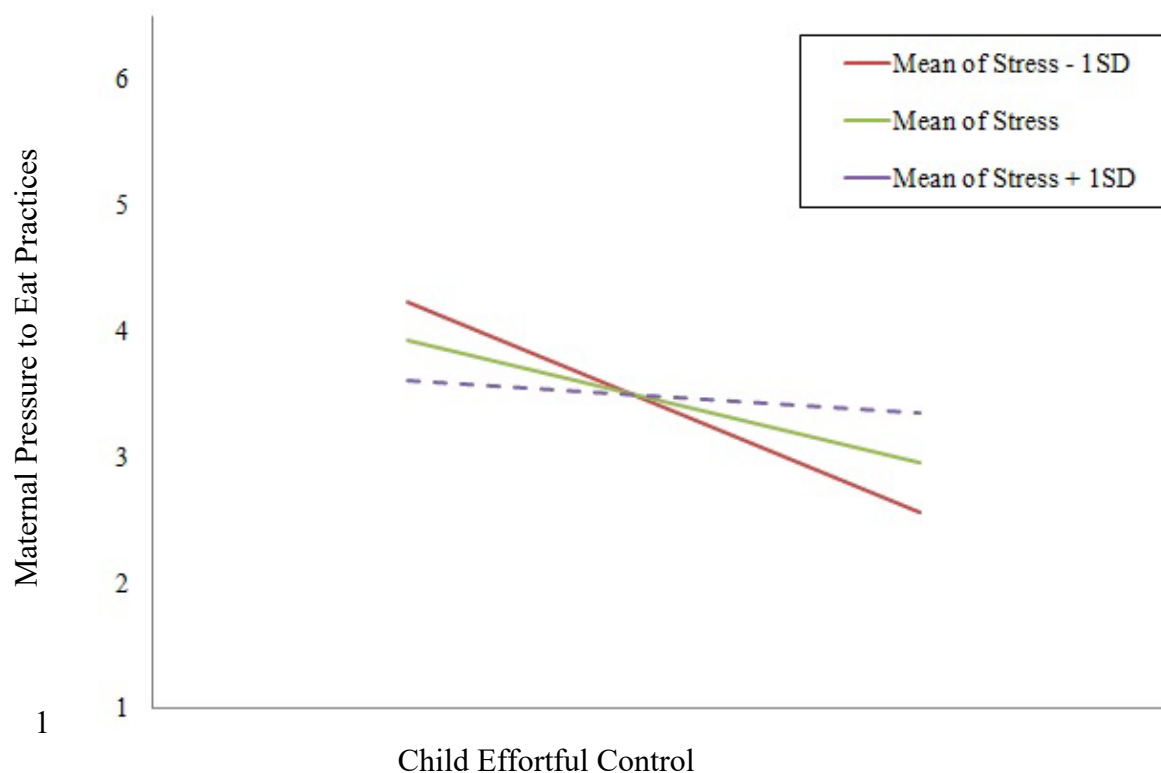


Figure 2. Final model for authoritarian parenting style's moderated mediation model.

Note. \* $p < .05$ . \*\* $p < .01$ . Unstandardized path coefficients and the significance levels from the final model are indicated. Child BMI percentile was included as covariate. Solid lines refer to significant paths and the dashed line refers to insignificant path.





*Figure 3.* Plotting the interaction between parenting stress and child effortful control in predicting maternal use of pressuring to eat in Asian American mothers. At mean and low levels of parenting stress, child effortful control was significantly and positively related to maternal use of pressure to eat, whereas at high levels of parenting stress effortful control was not significantly related to pressure to eat.

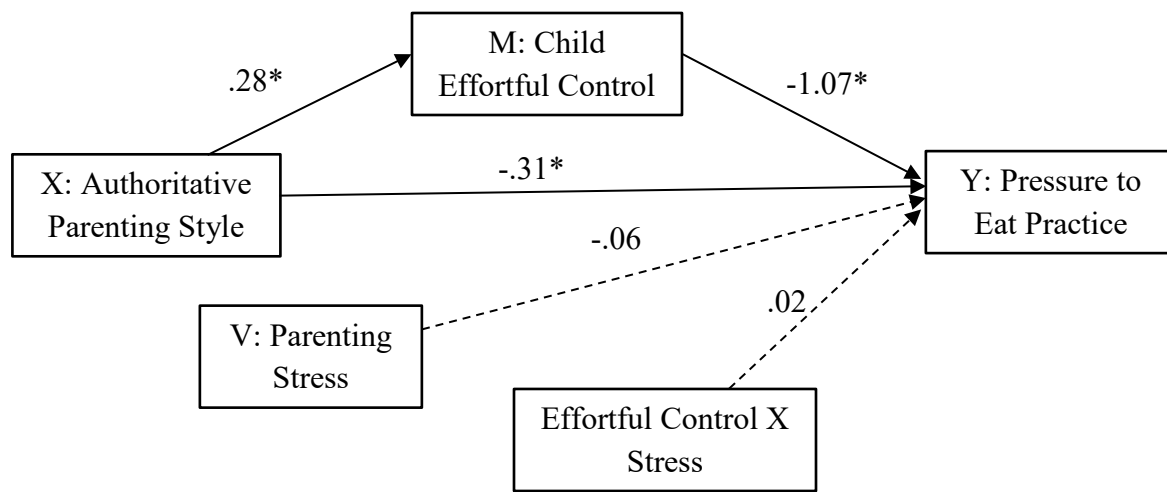


Figure 4. Final model for authoritative parenting style's moderated mediation model.

Note.  $^*p < .05$ . Unstandardized path coefficients and the significance levels from the final model are indicated. Child BMI percentile was included as covariate. Solid lines refer to significant paths and the dashed lines refer to insignificant paths.