



## Research report

# Parental perceptions, feeding practices, feeding styles, and level of acculturation of Chinese Americans in relation to their school-age child's weight status <sup>☆</sup>

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## ARTICLE INFO

## Article history:

Received 19 October 2013

Received in revised form 28 April 2014

Accepted 30 April 2014

Available online 6 May 2014

## Keywords:

Parental perceptions  
 Parental feeding practices  
 Parental feeding styles  
 Acculturation  
 Chinese American

## ABSTRACT

Parents influence their child's eating behavior and attitudes directly as food providers and indirectly through their parental feeding styles and feeding concerns and practices. Chinese American parents' practices are likely influenced by culture. The objective of this study was to explore the relationships between parental perceptions, feeding practices, feeding styles, level of parental acculturation (LPA), and child weight status via a self-administered questionnaire. This survey study involved a convenience sample of 712 individuals who were parents of 5- to 10-year old children attending Chinese language after-school programs. The prevalence of overweight was 11.5% and obesity was 11.1%. LPA was not directly predictive of child overweight in multiple regression but from categorical data, Chinese American parents tended to use indulgent (33.2%) and authoritarian (27.9%) feeding styles, with the former increasing with acculturation and the latter decreasing. Indulgent parents had more than expected overweight and obese children, and authoritarian and authoritative parents, fewer. LPA was negatively predictive of pressure to eat healthy foods ( $p < .01$ ), which was negatively correlated with child weight status ( $p < .01$ ). LPA was also independently positively correlated to responsiveness to child needs ( $p < .01$ ), monitoring of child intake ( $p < .01$ ), and perceived responsibility for child feeding. Parental perceptions and concerns about child weight were predictors of child weight. Consequently, parental concerns and responsiveness to child needs without also encouragement (demandingness) to eat healthy foods (indulgent feeding style) may promote overweight. The authoritative parental feeding style may contribute to children having healthy weights and therefore healthy lives.

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## Introduction

Most developed, and increasingly, developing countries are currently plagued by serious health conditions such as overweight and obesity in adults and children (Popkin, 2009). The risk of becoming obese has begun to cross cultural, racial, and socioeconomic backgrounds. Studies show that childhood obesity has been associated with an increased risk for later cardiovascular diseases (Freedman, 2002), type 2 diabetes, metabolic disorders, and increased morbidity and mortality in adulthood (Ogden, Flegal, Carroll, & Johnson, 2002).

There is often a marked increase in the level of obesity for children born in the second or third generation compared to the first

generation of immigrants to a more developed country (Popkin & Udry, 1998). Estimates of overweight and obesity combined in United States (U.S.) born Chinese American children range from 25% in one study of 4,695 children 6–11 years old (Au, Kwong, Chou, Tso, & Wong, 2009; Tarantino, 2002) to 46% for a sample of those 8–10 years old (Chen, Weiss, Heyman, & Lustig, 2011). The national U.S. average for overweight and obesity combined for children 6–11 years old is 31% (United States Centers for Disease Control and Prevention, 2013).

Factors contributing to childhood obesity are numerous, among them genetic factors and behavioral factors such as a high energy density diet, physical inactivity, and social and environmental risk factors. (Barlow, 2007; Berkey, Rockett, Field et al., 2000). In this context, families can be a crucial contributing factor.

## Parental influence on children's eating behavior

Parents create a home environment that plays a critical role in shaping children's food preferences, eating behaviors, and energy intake (Ventura & Birch, 2008; Savage, Fisher, & Birch, 2007) note that children learn what, when, and how much to eat based on the transmission of cultural and family beliefs, attitudes, and prac-

<sup>☆</sup> Acknowledgements: The authors would like to thank Dr. Heewon Lee Gray and Mr. Ivo Antoniazzi for statistical support, the Culture Center of Taipei Economic and Cultural Office in New York, and the parents, teachers, and principals of the schools for their participation.

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tices surrounding food and eating. Parents shape the development of children's eating behaviors, not only by the foods made accessible to children (as food providers) but also by their own eating practices (as role models), and their parenting styles, child feeding styles, and perceptions and practices (Rhee, 2008; Ventura & Birch, 2008).

*General parenting styles* has been defined as a constellation of attitudes and beliefs that create a socio-emotional climate within which parenting practices are applied (Darling & Steinberg, 1993). Parenting style is usually classified into one of four categories based on variations in the dimensions of warmth or "responsiveness," and degree of control expectations, or "demandingness" that parents express (Blissett, 2011; Rhee, 2008). The authoritarian style is typified by low warmth or responsiveness and a high degree of demandingness/control while the authoritative parenting style by high warmth and responsiveness and also high demandingness/control. The indulgent-permissive parenting style is characterized by high warmth and low demandingness/control while the neglectful-permissive style by low warmth and low demandingness/control. The relationship between these general parenting styles and child weight or food intake appears to minimal (Vollmer & Mobley, 2013).

*Parental feeding styles* consist of the general parenting styles that have been applied to the food domain (Blissett, 2011; Costanzo & Woody, 1985; Rhee, 2008). They thus consist of the same four typologies. Responsiveness refers to *how* the parents encourage eating (i.e., the level of nurturance parents use in directing their child's eating). Demandingness refers to *how much* the parent encourages eating (i.e., how demanding they are during the eating experience) (Baranowski, 2013; Blissett, 2011; Hughes, Power, Fisher, Mueller, & Nicklas, 2005). These have been shown to play a contributing role in the weight status of children (Brann & Skinner, 2005; Chen & Kennedy, 2004, 2005; Hughes et al., 2005).

*Parental feeding practices are embedded in their feeding styles and may vary based on parental concerns and perceptions of the child's risk for developing a problem in the domain of food* (Blissett, 2011; Costanzo & Woody, 1985; Darling & Steinberg, 1993). The most studied to date are concerns and perceptions related to child weight (Birch & Davison, 2001; Johnson & Birch, 1994; Ventura & Birch, 2008). Parental feeding practices are specific techniques parents usually use to facilitate or limit ingestion of foods. The most commonly measured include practices such as pressure to eat healthy food, restriction of less healthful food, monitoring of the child's food intake, or the use of rewards for food consumption. One widely used instrument is the Child Feeding Questionnaire (Birch & Davison, 2001), that focuses on parental feeding concerns and practices related to child weight, in particular practices related to a controlling or authoritarian feeding style (Birch & Fisher, 2000; Ventura & Birch, 2008). Hughes et al. (2005) expanded theorizing to include parenting practices in relation to the full range of parental feeding styles, and these can be measured with the Caregiver's Feeding Style Questionnaire (Hughes et al., 2005). Parental feeding practices are often shaped by parents' own experience with food and eating and concern about their own weight (Johnson & Birch, 1994). They are also likely to be shaped by their cultural group (Arrendondo, Elder, Ayala, et al., 2006; Hughes et al., 2005; Hughes, Shewchuk, Baskin, Nicklas, & Qu, 2008; Matheson, Robinson, Varady, & Killen, 2006).

The Chinese parenting style has often been described as "controlling" or "authoritarian" (Chao, 1994). This is considered acceptable by individuals in Asian sociocultural systems because "the legitimate right and responsibility of parents to exert authority over their children is unquestioned by children and adults alike" (Rohner & Pettengill, 1985, p. 527) and indeed is seen as reflecting "parental concern, caring and loving involvement" (Chen & Kennedy, 2005, p. 113). According to parental feeding style theory, the use of the authoritarian parenting style by Chinese American parents would be expected to be associated with more controlling feeding practices (such as pressure to eat healthy foods and restriction of unhealthy

foods) and should be predictive of an increased risk for childhood obesity (Huang, Parks, Kumanyika et al., 2012; Hubbs-Tait, Kennedy, Page, Topham, & Harrist, 2008; Hughes et al., 2005). However, it is not known which parental feeding practices and feeding styles are used by the primary caretakers in Chinese American families. Furthermore, these parenting practices and feeding styles may differ by degree of acculturation into mainstream American society (Chen & Kennedy, 2005).

The purpose of this study was to examine the relationships between parental perceptions, feeding practices, feeding styles, and level of parental acculturation of Chinese Americans and their school-age child's weight status.

## Methods

### *Participants: inclusion and exclusion criteria*

Parents aged 25 to 56 years old whose children attended bilingual and/or bicultural public elementary schools or Chinese weekend language schools in New York City area were recruited to participate in this study. The participants had to have at least one child aged between 5 and 10 years old. If a family had two or more children, they were invited to complete the questionnaire only for the youngest child within this range. The participants had to have a Chinese ethnicity background but could be either Chinese or English speaking. Cross-cultural marriages were excluded from this study due to the possible impact of multiple cultures on the parenting perceptions, feeding practices, feeding styles, and level of parental acculturation.

### *Procedures*

The study protocol and instruments were reviewed and approved by the Internal Review Board of the research university. A list of Chinese weekend language schools was obtained from Chinese American community organizations, and 13 out of 15 were selected based on geographic criteria. One public dual language elementary school was also included. When a school's principal agreed, the principal investigator gave that principal a letter describing the purpose of study, consent forms, and copies of the survey instrument (in both English and Chinese) to distribute to all teachers who had students aged 5 to 10 in their classrooms. Teachers asked the children to bring the research questionnaire home to parents. Parents were asked to complete the questionnaire at home. Teachers collected all the questionnaires back the next school day (or the following weekend). Between September to November 2012, 1,000 parental questionnaires were distributed.

### *Measures*

The research instrument was a self-report questionnaire constructed from three validated instruments: Suinn-Lew Asian Self-Identity Acculturation scale, Child Feeding Questionnaire, and Caregiver's Feeding Style Questionnaire, and demographic information. The questionnaire was translated into traditional Chinese. To ensure that item concepts were comparable for both the English and traditional Chinese versions, back-translations were conducted and the questionnaire revised through two pilots. Examples of questions for each of the constructs in the instrument are shown in Table 1 along with consistency reliability data.

The *Suinn-Lew Asian Self-Identity Acculturation scale (SL-ASIA)* (Suinn, Richard-Figueroa, Lew, & Vigil, 1987) was used to assess level of parental acculturation (LPA) in two ways. Questions asked about language, identity, friendships, and behaviors. A validated nine-item version of the original SL-ASIA provided continuous data (Liou & Contento, 2001). Each question can range from 1 (low accultur-

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