



Longitudinal factor analysis of the Comprehensive Feeding Practices Questionnaire among parents of preschool-aged children

Jaclyn A. Saltzman^{a,c,*}, Katherine N. Balantekin^b, Salma Musaad^c, Kelly K. Bost^a, Barbara H. Fiese^{a,c}, the STRONG Kids Team

^a Human Development and Family Studies, University of Illinois at Urbana-Champaign, United States

^b Department of Exercise and Nutrition Sciences, University at Buffalo, United States

^c Family Resiliency Center, University of Illinois at Urbana-Champaign, United States

ABSTRACT

Introduction: The Comprehensive Feeding Practices Questionnaire (CFPQ) assesses 12 specific parent feeding practices (Musher-Eizenman & Holub, 2007). However, the original 12-factor structure may not be consistent across age groups, and no studies have yet evaluated the factor structure of the CFPQ over time. Therefore, the aim of the current study is to evaluate the model fit of the original and alternative CFPQ factor structures at two time points in early childhood.

Method: Mothers (n = 260) of preschoolers completed validated surveys assessing parent feeding practices and child eating behaviors when children were on average 37 months of age at Time 1 (T1), and 57 months of age at Time 2 (T2). Confirmatory Factor Analysis (CFA) and Exploratory Factor Analysis (EFA) procedures were used to evaluate the original CFPQ factor structure, and to identify and evaluate modified factor structures at both time points.

Results: The original 12-factor CFPQ model did not adequately fit the data at T1 or T2. EFA identified a 7-factor model at T1, and a 5-factor model at T2. Bivariate correlations provided preliminary evidence for the validity of the modified scales.

Discussion: Overall, these findings suggest that parent feeding measures should the developmental significance of specific feeding practices, and/or that parents' reliance on certain feeding practices may shift as children age. Thus, a developmental framework to conceptualize how feeding changes during early childhood is sorely needed.

1. Introduction

Parent feeding practices are linked to children's food consumption (Fisher & Birch, 1999; Hughes et al., 2007; Loth, Friend, Horning, Neumark-Sztainer, & Fulkerson, 2016), eating behaviors (Agris et al., 2012; Daniels et al., 2014), and weight gain trajectories (Clark, Goyder, Bissell, Blank, & Peters, 2007; Rollins, Loken, Savage, & Birch, 2014). However, the inconsistencies in terminology, measurement, and conceptualization in regards to research on parent feeding practices has limited the ability to generalize findings across studies and measurement instruments (Vaughn, Tabak, Bryant, & Ward, 2013). One of the most commonly used measurement of feeding practices is the

Comprehensive Feeding Practices Questionnaire (CFPQ) (Musher-Eizenman & Holub, 2007). It was unique because it focused on measuring several food-related parenting practices that had been linked to healthy child outcomes, but had not been previously assessed in self-report questionnaires of parent feeding practices (e.g., parent nutrition knowledge), and distinguished between restriction to control child weight and restriction to promote child health.

A rigorous three-study procedure was used to develop and evaluate the CFPQ (Musher-Eizenman & Holub, 2007). In Study One, the authors used existing measures of parent feeding practices—such as the Child Feeding Questionnaire (Birch et al., 2001) and the Preschool Feeding Questionnaire (Baugcum et al., 2001)—to create initial items for the

Abbreviations: CFPQ, Comprehensive Feeding Practices Questionnaire; CFQ, Child Feeding Questionnaire; CFA, Confirmatory Factor Analysis; STRONG, Synergistic Theory and Research on Obesity and Nutrition Group; T1, Time 1; T2, Time 2; PES, Problematic Eating and Feeding Scale; BMI, Body mass index; RMSEA, Root Mean Square Error of Approximation; SRMR, Standardized Root Mean Square Residual; CFI, Comparative Fit Index; AIC, Akaike Information Criterion; MSA, Kaiser's Measure of Sampling Adequacy; EFA, Exploratory Factor Analysis

* Corresponding author. Department of Human Development and Family Studies, University of Illinois at Urbana-Champaign, Urbana, IL, 61801, United States.

E-mail address: saltzm2@illinois.edu (J.A. Saltzman).

<https://doi.org/10.1016/j.appet.2018.07.006>

Received 16 October 2017; Received in revised form 17 June 2018; Accepted 4 July 2018

Available online 05 July 2018

0195-6663/ © 2018 Elsevier Ltd. All rights reserved.

scale, particularly those focused on monitoring, restriction, pressure to eat, feeding for emotion regulation, and child control of feeding and eating. By utilizing these existing measures and their relevant scales, Musher-Eizenman and Holub (2007) were able to ensure that this assessment tool would be comparable to the extant literature. In Study Two, the item generation process involved seeking out qualitative feedback from parents, adding preliminary evaluation of face and content validity. Finally, the authors conducted an initial psychometric evaluation on a sample of mothers and fathers using a two-group confirmatory factor analysis (CFA) to examine factor structure.

Several studies have used the CFPQ and have been unable to replicate the factor structure. This may be due to differences in child age between samples. The CFPQ was originally validated in a sample of children aged 1.6–8 years old (Musher-Eizenman and Holub (2007) Musher-Eizenman and Holub (2007)). However, Haszard and colleagues tested the factor structure of the CFPQ in a large sample of parents of 4- to 6-year olds in New Zealand, and found that a 5-factor structure fit the data better than the original 12-factor model (Haszard, Williams, Dawson, Skidmore, & Taylor, 2013). In comparison, a study assessing the CFPQ among Brazilian parents of 5- to 9-year olds also found a poor fit with the 12-factor model, and instead identified a 6-factor model (Mais, Warkentin, Latorre, Carnell, & Taddei, 2015), which they confirmed in a different sample of Brazilian parents of 2- to 5-year olds (Warkentin, Mais, Latorre, Carnell, & Taddei, 2016). In a Jordanian sample of mothers of 6- to 12-year old children, a 11 factor model involving all of the original subscales from the CFPQ—minus the Balance and Variety subscale—was deemed the best fit to the data (Al-Qerem, Ling, & Albawab, 2017). Finally, in a Malay sample of mothers of 7- to 9-year olds, a modified 12-factor structure with 10 fewer items than the original measure was deemed the most appropriate fit (Shohaimi, Yoke Wei, & Mohd Shariff, 2014).

Although each of these studies adds important information to the literature on the applicability of the CFPQ across cultures, to the best of our knowledge, no studies have yet examined whether the model retains its structure across two time points, making it difficult to assess the salience of different feeding practices at different points in development. By examining the factor structure of the CFPQ at two time points during the preschool years, two critical questions may be answered. First, does the CFPQ meet statistical criteria for good model fit across the dynamic developmental landscape of early childhood? The CFPQ has been used with parents of children from early toddlerhood to middle childhood, but no research has yet examined whether more subtle differences in child age or developmental phase affects the construct validity of the scale. Second, are certain feeding practices more developmentally relevant when children are younger? For instance, for preschoolers, leaving the table when full may promote autonomy, but it may be difficult or inappropriate for an 18-month old toddler to do the same. Although the CFPQ has been utilized in diverse samples among children from infancy to early adolescence, there is a dearth of longitudinal studies examining the factor structure of the CFPQ over time, making it difficult to assess the salience of different feeding practices at different points in development.

By analyzing the item-level factor structure of the CFPQ over time, we may also find that the same feeding practice is indexed by different behaviors at different time points. For example, it is conceivable that what constitutes “restrictive” feeding practices at three years old might be different from what we consider restrictive at five years of age. Indeed, qualitative research examining mothers’ perceptions of feeding practices suggests that mothers’ perceptions of their children’s appetite self-regulation changes over time, dependent on child behavior as well as mothers’ learning and experiences as a parents (Bergmeier et al., 2017). Mothers also reported modifying their feeding practices according to their children’s growth, individual characteristics, their own energy and needs, and to inconsistencies in daily routines as factors affecting feeding and eating behavior (Bergmeier et al., 2017). Thus, parent—as well as child—development may affect the degree to which

certain feeding practices are used or found to be salient over time.

The purpose of the current study is to evaluate the fit of the original CFPQ factor structure to a sample of children first when they are on average 37 months of age, and then again when they are on average 57 months of age. These two points in early childhood are marked by distinct differences in behavioral and cognitive ability. This will allow us to identify whether feeding practices are stable over time, or if certain practices are more relevant to parents at different developmental periods. Secondarily, if we do not find that the original CFPQ factor structure is appropriately fit to the data, we will use an iterative exploratory factor analysis method to identify an alternative factor structure. By identifying alternative factor structures and comparing findings over time, we expect our findings to lead to a comprehensive series of developmentally sensitive recommendations for future research on feeding practices.

2. Method

2.1. Recruitment and sample characteristics

Participants for this study are a subsample of the larger STRONG Kids (SK) Study. The SK Study is a transdisciplinary research program designed to identify predictors of child eating behaviors in home and childcare settings. At Time 1 (T1), parents of preschool-aged children were recruited from licensed childcare centers in the Midwest, which were identified using an unequal probability sampling frame applied across five counties. Childcare centers were included in recruitment if: (1) they were registered with the state Bureau of Child Care and Development, (2) enrolled at least 24 children, and (3) were within 65 miles of the study site in one of four micro-urban areas in order to maximize racial/ethnic diversity. Of 33 eligible centers, 30 permitted recruitment of children and parents. At T1, children were on average 37 months old ($SD = 6.94$ months), and at Time 2 (T2) on average 57 months old ($SD = 8.32$). Parents provided written and informed consent; completed validated self-report questionnaires; self-reported their height and weight at T1 and T2. Child height and weight were measured by trained research assistants at T1 and T2. The study was approved by the Institutional Review Board.

Inclusion criteria for the current study required that participants were mothers, and that the same person completed the surveys at both time points. Given the small percentage of the full sample that included surveys completed by fathers at both time points ($n = 7$, 1.4%), we excluded fathers from the current study. Thus, the analytic subsample included ($n = 260$) mother-child pairs with valid child anthropometric data, and complete surveys at both time points. Sample characteristics are reported in Table 1. A significantly greater proportion ($p < .05$) of mothers were married, had a college degree, and had a higher income in the subsample, as compared to the full sample (data not shown). There were no significant differences between families in the subsample and the larger SK sample on other demographic variables and child weight.

2.2. Measures

Comprehensive Feeding Practices Questionnaire (CFPQ; Musher-Eizenman & Holub, 2007). The CFPQ consists of 49 items that comprise 12 distinct subscales regarding specific feeding practices. *Child control* involves parents allowing the child to direct and regulate their own eating behaviors and feeding interactions (e.g., “Do you allow this child to leave the table when s/he is full, even if your family is not done eating?”). *Emotion regulation* involves using food to regulate the child’s negative emotions (e.g., “When this child gets fussy, is giving him/her something to eat or drink the first thing you do?”). *Balance and variety* involves promotion of healthy and varied food consumption (e.g., “I encourage my child to try new foods.”). *Environment* involves keeping healthy foods in the house and providing healthy options at meals for

Download English Version:

<https://daneshyari.com/en/article/7305138>

Download Persian Version:

<https://daneshyari.com/article/7305138>

[Daneshyari.com](https://daneshyari.com)