Family Environment and Childhood Obesity: A New Framework with Structural Equation Modeling

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Abstract

The main purpose of the current article is to introduce a framework of the complexity of childhood obesity based on the family environment. A conceptual model that quantifies the relationships and interactions among parental socioeconomic status, family food security level, child’s food intake and certain aspects of parental feeding behaviour is presented using the structural equation modeling (SEM) concept. Structural models are analysed in terms of the direct and indirect connections among latent and measurement variables that lead to the child weight indicator. To illustrate the accuracy, fit, reliability and validity of the introduced framework, real data collected from 630 families from Urumqi (Xinjiang, China) were considered. The framework includes two categories of data comprising the normal body mass index (BMI) range and obesity data. The comparison analysis between two models provides some evidence that in obesity modeling, obesity data must be extracted from the dataset and analysis must be done separately from the normal BMI range. This study may be helpful for researchers interested in childhood obesity modeling based on family environment.

Keywords: family food security level; childhood obesity; public health; child’s environment; household environment; structural equation modeling

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