

Poster Topical Area: Community and Public Health Nutrition

Location: Auditorium

Poster Board Number: 37

P06-016 - Overvaluation of eating in the relationship among childhood food insecurity, diet, obesity and insulin resistance: a structural equation model

 Monday, Jun 11  8:00 AM – 3:00 PM

Objectives: To confirm a theory that explains the underlying socio-cultural causes of unhealthy food intake, obesity and insulin resistance with structural equations modeling.

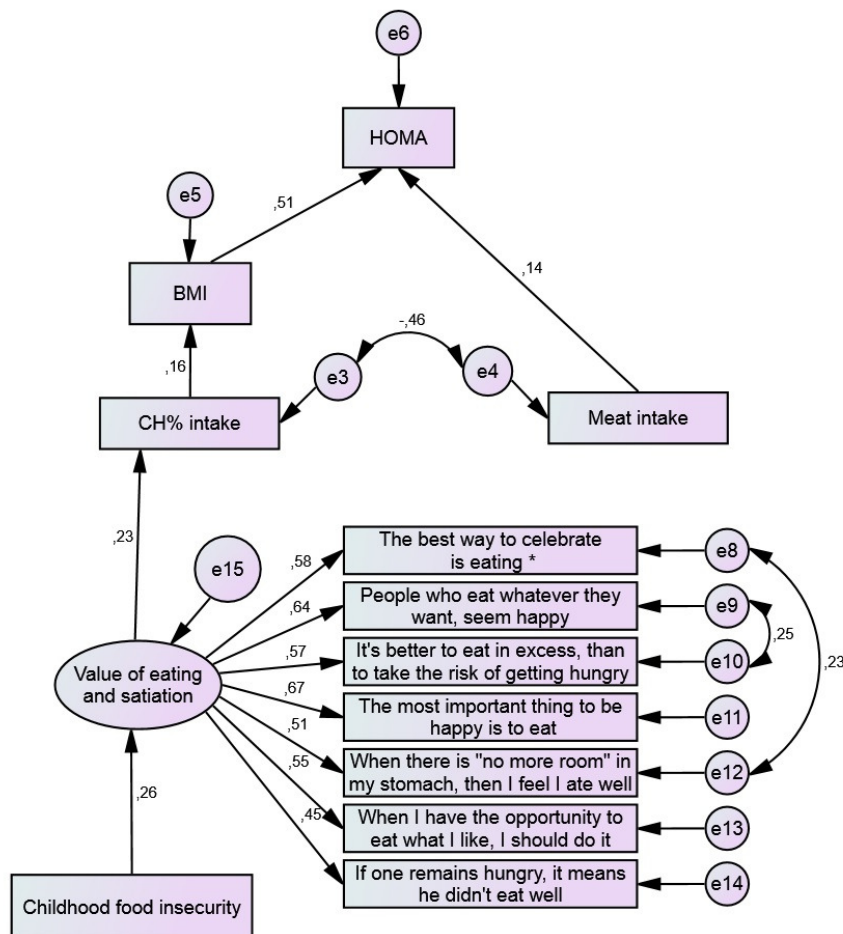
Methods: A validated questionnaire, that measures the value of eating as the basis of wealth and the value of satiation, was administered to 320 adult women from Querétaro, Mexico. The instruments to measure socioeconomic status (SES), household food insecurity, food insecurity during childhood, physical activity and a quantitative food frequency questionnaire were also applied. Women were measured and weighted, and provided a blood sample to determine glucose and insulin concentrations and to calculate the Homeostasis Model Assessment index (HOMA). The value of eating and satiation scales were analyzed with exploratory and confirmatory factor analysis, and linear regression analysis were used to determine the variables to include in structural equations models. The accurate model was determined with a χ^2/df 0.9, and RMSEA

Results: A single factor that included both value of eating and satiation scales were interpreted as the value of eating and satiation (VES); this scale was confirmed with acceptable parameters of goodness of fit. Linear regressions identified significant associations of HOMA with BMI and with a higher intake of energy from meat, obesity was associated with carbohydrate intake (CH), and CH was predicted by the VES, which was associated with childhood food insecurity. Independently from VES, a high intake of meat was also associated with HOMA. The structural equation model that represented these associations showed a $\chi^2/df = 1.82$, a CFI=0.94 and a RMSEA= 0.051. SES was not included in the model because of the multicollinearity produced by its strong association with most social variables (Figure 1).

Conclusions: The model supports the theory that past experiences of food insecurity may set deep-rooted VES. Overvaluation of eating and satiation is associated with a high intake of sugars and starches that results in obesity and IR. The understanding of essential values that induce an adverse eating behavior among a population that has experienced past food insecurity can help to develop better strategies to prevent diabetes.

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Figure 1. Structural Equations Model to predict HOMA.



* Translation of items has not been validated

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