



EATING COMPETENCE STATUS MAY MODERATE NUTRITION EDUCATION NEEDS OF LOW-INCOME MALES WITH CHILDCARE RESPONSIBILITIES

Barbara Lohse¹, Christine Least²

¹Department of Nutritional Sciences, ²PA Nutrition Education TRACKS; The Pennsylvania State University, University Park, PA

needs
NUTRITION EDUCATION
ENGINEERING & DESIGNS

814-865-5169

lohseb@psu.edu

Abstract #145920

- **Purpose:** Eating competence (EC), a bio-psychosocial model of eating behavior, was examined in male Supplemental Nutrition Assistance Program participants with childcare responsibilities to identify EC-linked nutrition education needs.
- **Methods:** Data were collected by telephone interview from a geo-stratified sample. Surveys measured EC, food security, weight satisfaction, nutrition interests, technology usage, and preferred education strategies.
- **Results/Findings:** Males (n=101; 26% black) were from disparate living arrangements. Mean age was 37.4 ± 13.4 years. Food insecurity was evident; 59% had a high school education or less. Most (92%) made snacks/meals for children. 58% were eating competent (ECt); mean EC score was 31.4 ± 8.2. EC scores were higher with weight satisfaction (P=0.008). Males interested in learning to cook tended toward higher EC scores (P=0.056).

Physical activity interest was greatest in the highest EC tertile (P=0.05). Those with whole/2% milk available had higher EC Attitude subscale scores (P=0.025) and tended toward higher EC (P=0.08). Fewer ECt than non-ECt males denoted not enough money to buy food as a healthful eating barrier (P=0.006). Number of healthful eating barriers was lower in ECt males (P=0.04). Males using Facebook often (compared to never) had higher EC scores (P=0.042). Among those with more than a high school education, print materials were preferred by more ECt (than non-ECt) males (P=0.005), but preference was not related to EC status for those with less education.

- **Conclusions:** Consideration of EC as a moderator of nutrition behavior and influence on nutrition education planning appears prudent. Funded by USDA; PSU Social Science Research Institute.

Background & Aims

The Satter Model of Eating Competence (ecSatter) is an intra-individual approach to eating and food-related attitudes and behaviors that entrains positive bio-psychosocial outcomes. (1) according to ecSatter, eating competence (EC) consists of four basic components: a) eating attitudes, b) food acceptance, c) internal regulation of food intake, and d) eating context. Competent eaters are positive, flexible and relaxed about eating with an intrinsic motivation to eat a variety of food, maintain energy balance by attending to hunger, satiety and appetite sensations and prioritize and structure meals. They give themselves permission to eat “adequate amounts of preferred food at predictable times” but have the discipline to maintain meal and snack time structure and pay attention while eating. (1) ecSatter is an unconventional approach to dietary guidance, but competent eaters exhibit desired goals in that they have less emotional eating and fewer disordered eating traits (e.g., less drive for thinness, body dissatisfaction, bulimia, and maturity fears. (2-3)

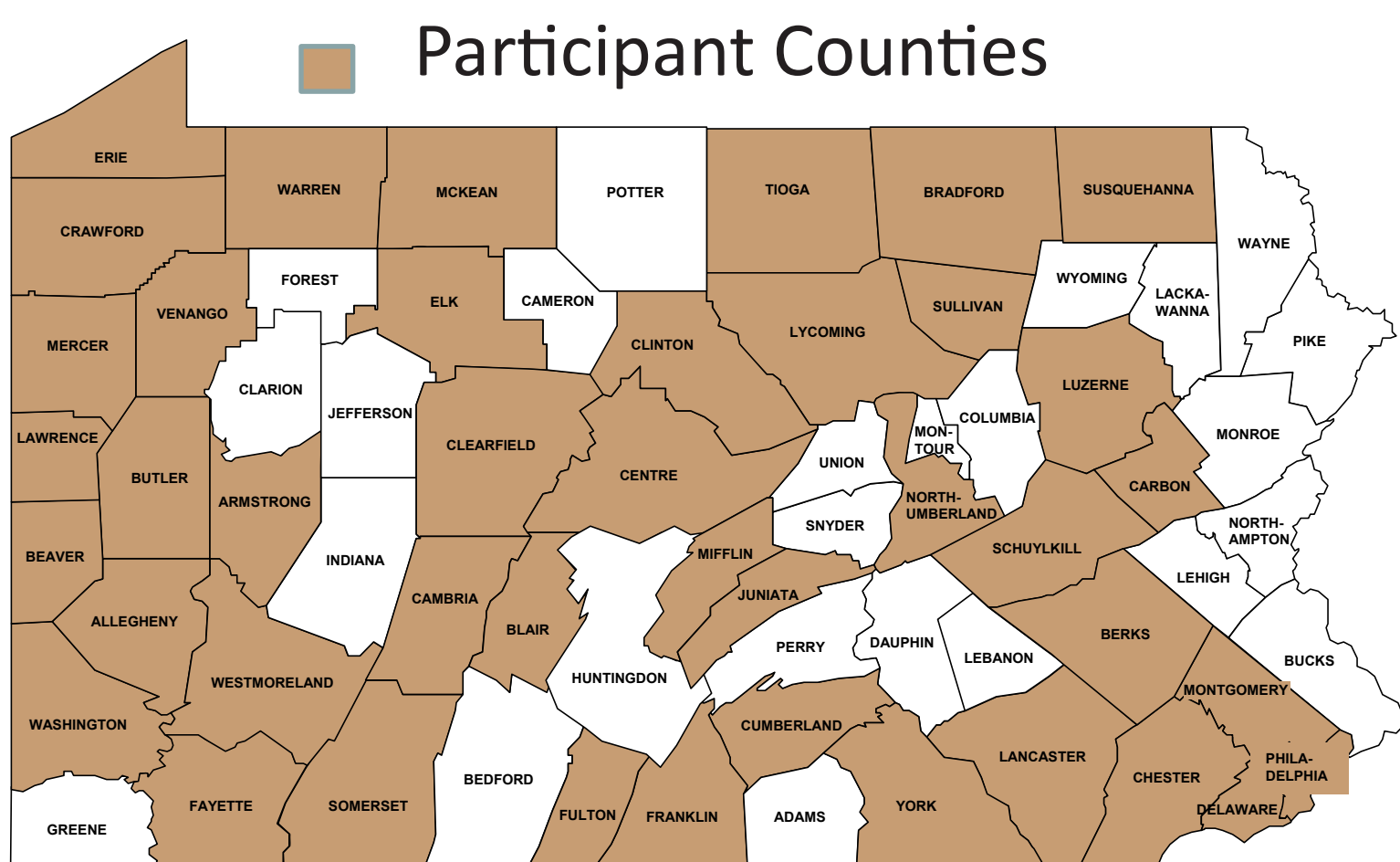
Competent eaters have a more healthful cardiovascular profile, including lower blood pressure, (4) and self-report greater physical activity. (2-3) In addition, higher dietary quality, (5) including greater adherence to a Mediterranean diet in Spanish elderly, (6) heightens interest in this model that does not advocate for specific foods, food groups, or portion sizes. Nutrition education using ecSatter emphasizes an interpersonal, learner-driven approach rather than an information-imparting focus. (7) Early research about EC suggested males have greater EC, however subsequent research has focused on females and none of the EC research in low-income adults has included males. Analysis of NHANES data from 1999-2004 revealed less healthy eaters more likely to be male (8) and targeting nutrition education to males has been suggested. (9)

The purpose of this study was to examine EC in a sample of low-income males as a preamble to designing a nutrition education program for low-income males.

Participants & Results

Participant Characteristics (n=101)	
Age: Mean 37.4± 13.4 years; range 18 -59; median 35	
Weight Satisfaction: 51% satisfied; 26% neutral; 23% unsatisfied	
Nutrition Assistance: 61% Supplemental Nutrition Assistance Program (SNAP) participant 28% Use food pantries	
27% Always or often worried about money for food 63% Rated their health as excellent or nearly excellent	

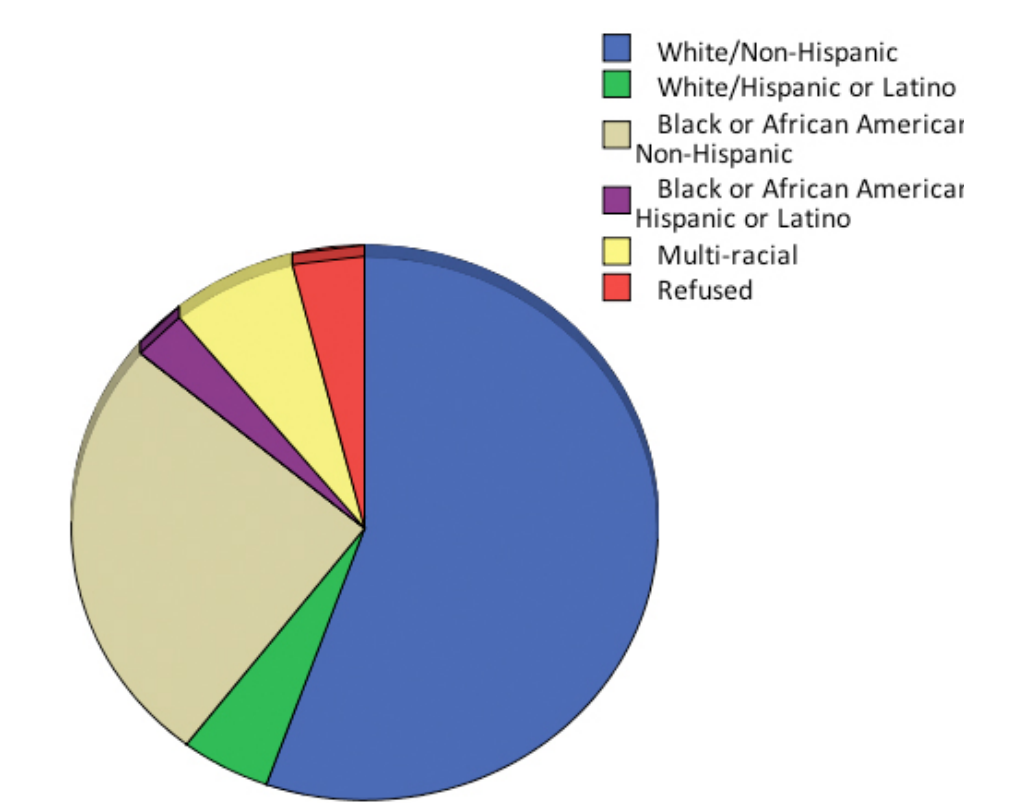
Geo-diverse; Participants Lived in 42 Counties



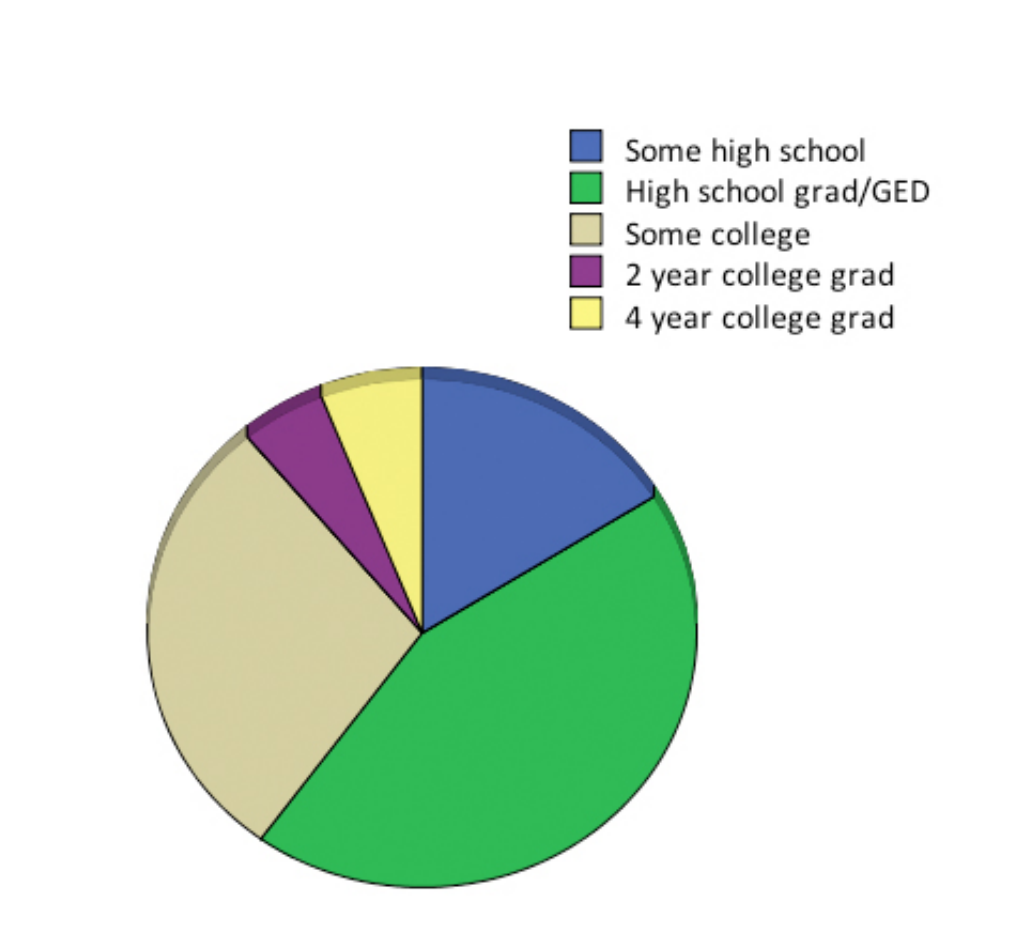
Eating Competence	Mean ecSI/LI scores ± SD	Range	Median
Total Scale Score	31.4 ± 8.2	8 – 48 (possible 0 – 48)	32
Subscales Scores			
Eating Attitudes	11.3 ± 3.0	4 – 15 (possible 0 – 15)	12
Food Acceptance	4.0 ± 2.1	0 – 9 (possible 0 – 9)	4
Internal Regulation	6.7± 2.0	2 – 9 (possible 0 – 9)	7
Contextual Skills	9.5 ± 3.5	0 – 15 (possible 0 – 15)	10
Eating Competent ¹			
Yes (n=59)	36.9 ± 4.0	32 – 48	36
No (n=42)	23.7 ± 6.1	8 – 31	26
Tertiles:			
High (n=39)	21.0 ± 5.9	8 – 27	23
Middle (n=34)	31.3 ± 2.2	28 – 34	32
Low (n=28)	38.9 ± 3.5	35 – 48	38

¹ Eating competence = ecSI/LI score ≥ 32.

Race/Ethnicity Categories



Education Level



Among this sample of low-income males eating competence was NOT associated with:

- Age
- Race
- Employment or Cohabitation Status
- Education level
- Order of ecSI/LI appearance in survey set

Eating competence was significantly higher in those satisfied with their weight (F=5.1, P=.008)

ecSI/LI score:	Satisfied (n=51)	33.7 ± 7.1
	Neutral (n=26)	31.0 ± 8.0
	Unsatisfied (n=23)	27.4 ± 9.0

Eating competence tertile was associated with citing “not having enough money to buy food” as a reason for not eating healthy (Chi Sq 14.0, P=.03).

Low tertile	cited by 21%	(6 of 28)
Middle tertile	cited by 18%	(6 of 34)
High tertile	cited by 0%	(0 of 39)

Eating competence status (i.e. ecSI/LI ≥ 32) was also associated with citing lack of money as a reason for not eating healthy (Chi Sq 12.3, P=.006)

Not eating competent	cited by 24%	(10 of 42)
Eating competent	cited by 3%	(2 of 59)

The **middle** tertile of ecSI/LI scores was less interested in food safety (Chi Sq 8.8, P=.012); 59% (20 of 34) vs. 82% (23 of 28) and 88% (34 of 39) for low and high tertiles, respectively. In addition, the **middle** tertile was less interested in learning about physical activity (Chi Sq 6.0, P=.05) with 56% denoting interest; 71% and 82% of males in low and high tertiles, respectively, were interested in physical activity.

Eating competence tended (Chi Sq 2.8, P=.09) to indicate an interest in cooking more frequently than non-eating competent males (64% vs 48%).

Conclusions

- Mean ecSI/LI score of low-income males were higher than determined in studies with low-income women; scores are similar to mixed gender samples not targeted by income.
- In contrast to findings with female samples, ecSI/LI response was not related to order of ecSI/LI scale presence in the survey set.
- Males who are not eating competent present a greater challenge to nutrition educators, citing fewer topics of interest, more barriers to healthful eating, and less interest in technology or print materials.
- Assessment of eating competence and education focused to enhance eating competence appears to be a prudent approach when targeting nutrition education to low-income males.



Methods

Participants and Recruitment

- The Pennsylvania Department of Public Welfare provided a list of males participating in the Pennsylvania Supplemental Nutrition Assistance Program (SNAP).
- A professional survey service telephoned subjects with 10-digit phone numbers who were selected from the list using a randomization protocol that stratified by proportion of SNAP participants per county. This ensured representation of SNAP-dense areas, but facilitated state-wide representation.
- Eligibility criteria included ability to speak and understand English and involvement to any degree as a caregiver of children (either their own or others) under the age of 18.
- Telephone calls were made until a goal of 100 surveys were completed.

Instruments

- 27-item instrument: Satter Eating Competence Inventory for low-income (ecSI/LI), USDA Food Security Screener, demographics, response to queries about topics and strategies for nutrition education, and technology usage.

Data Analysis

- SPSS version 19.0 (IBM, Armonk, NY); ANOVA, t-tests, Chi Square.



Funding

Funded by the PA Department of Public Welfare (DPW) through the PENNSYLVANIA NUTRITION EDUCATION TRACKS, as part of USDA’s Supplemental Nutrition Assistance Program (SNAP) and the Social Science Research Institute of the Pennsylvania State University.

References

1. Satter E. Eating competence: definition and evidence for the Satter eating competence model. *J Nutr Educ Behav.* 2007;39 (5S):142 - 153.
2. Krall JS, Lohse B. Validation of a measure of the Satter eating competence with low-income females. *Int J Behav Nutr Phys Act.* 2011;8:26.
3. Lohse B, Satter E, Horacek T, Gebreselassie T, Oakland MJ. Measuring eating competence: Psychometric properties and validity of the ecSatter Inventory *J Nutr Educ Behav.* 2007;39(5S): 154-166.
4. Psota TL, Lohse B, West SG. Associations between eating competence and cardiovascular disease biomarkers. *J Nutr Educ Behav.* 2007;39(5S):171-178.
5. Lohse B, Bailey R, Krall J, Wall D, Mitchell DC. Diet quality is related to eating competence in low-income females in Pennsylvania. *Appetite.* 2012; 58(2):645-650.
6. Lohse B, Psota T, Estruch R, Zazpe I, Sorli JV, Salas-Salvado J, Serra M, Krall JS, Marquez F, Ros E. Eating competence of elderly Spanish adults is associated with a healthy diet and a favorable cardiovascular disease risk profile. *J Nutr.* 2010;140:1322-1327.
7. Satter E. Eating competence: Nutrition education with the Satter eating competence model. *J Nutr Educ Behav.* 2007;39(5S):189-194.
8. USDA, Office of Research and Analysis. Characteristics and dietary patterns of healthy and less healthy eaters in the low-income population. 2012. <http://www.fns.usda.gov/ORA/menu/Published/SNAP/FILES/Participation/HEI.pdf>.
9. Wright JD, Wang C-Y. Awareness of federal dietary guidance in persons aged 16 years and older: Results from the National Health and Nutrition Examination Survey 2005-2006. *J Amer Diet Assoc.* 2011;111:295-300.