

Consider BMI Change When Evaluating Nutrition Intervention Impact on Eating Competence: Findings from an Intervention with Eating Competence Constructs for Adults

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Objectives: Examine change in adult eating competence (EC) over a 12 month period following participation in a controlled 7-month nutrition education intervention with EC constructs.

Methods: Parents of 4th grade youth in a cluster randomized impact assessment of a 7 month school-based culinary and physical activity intervention were assigned to 1 of 4 incrementally complex treatments that included components congruent with EC tenets. An online survey included validated measures of EC (ecSI 2.0TM), physical activity, stress, diet quality, healthful modeling, self-efficacy (SE) to offer fruits and vegetables to youth, and self-reported height/weight. EC was defined as ecSI 2.0TM \geq 32. Measures were completed at baseline (BL), post-intervention (FU) and 5 months later (FU2). SPSS 24.0 analyses included repeated measures general linear modeling, means testing, chi square, Pearson correlation.

Results: Mean age of the mostly female (86%) sample (n=418) was 39.1 \pm 6.0 y; at FU2 126 were intervention and 96 control parents. BL analyses supported EC tenets with greater ecSI 2.0TM scores associated with less stress, lower BMI, less overweight/obesity, greater physical activity, greater SE and modeling behaviors (all P < 0.01). These relationships persisted at FU (n=220) and FU2 (n=221) for BMI, SE, modeling, and stress measures (all P < 0.01) and physical activity (P=0.001 FU and 0.09 FU2). EC was denoted for 53% and 57% at BL and FU2 respectively. BL to FU2 ecSI 2.0TM change was not significant when controlling for changes in stress or physical activity. However, compared to those with increased FU2 BMI, ecSI 2.0TM tended (P=0.06) to increase when BMI was decreased or unchanged, even when controlling for BL BMI. BL to FU2 ecSI 2.0 change was inversely related to BMI change (P=0.01). ecSI 2.0TM tended to decrease for control, but increase for intervention parents (P=.07; - .34 vs 1.05), but not when controlling for BMI change.

Conclusions: An intervention with attention to EC congruent tenets showed modest effect on ecSI 2.0TM suggesting that successful programs require attributes that directly align with EC, which may be uniquely different from traditional nutrition education. Accurate EC intervention assessment required consideration of BMI change.

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