IMPACT AND EFFECTIVENESS
TABLE 29

Food Pricing

EFFECTIVENESS TABLES

Study Description	Measures & Outcomes	Effect Size or % Change	Effectiveness	Maintenance & Representativeness
United States				
Author Harnack, French (2008) Minnesota **Design** Intervention Evaluation Randomized trial **Duration** Medium 7 months	**Measures** *Access to affordable, healthy foods* (presence of differences in pricing and standardized prices per ounce and addition of calorie and price information to a fast food menu) **Outcome(s) Affected** Dietary consumption (Nutrient composition using a food composition table and gram weight information estimated calories consumed)	**Net Neutral for Nutrition in the Study Population (Food Pricing)** **Net Negative for Nutrition in Men (Food Pricing)** **Food Pricing (schools and communities)** NUTRITION: 1. No significant differences (p=0.25) in the average number of calories consumed by those in the calorie, price, calorie plus price, and control menu conditions (805, 813, 761 and 739 respectively). Selection and consumption of major food categories and portion sizes did not differ by condition. 2. Average energy intake was higher among males in the calorie, price and calorie plus price conditions compared to controls (p=0.01).	**Not Effective for Nutrition in the Study Population** **Not Effective for Nutrition in Men** Study design = Intervention evaluation Intervention duration = Medium Effect size = Net neutral for nutrition in the study population and net negative for nutrition in men	**Maintenance** Not Reported **Sampling / Representativeness** Not Reported
Author Horgen, Brownell (2002) Location not reported **Design** Intervention Evaluation Quasi-experimental, time series study Randomized trial **Duration** Low 14 weeks	**Measures** *Access to affordable, healthy foods* (lowered prices of healthy foods in restaurants and point of purchase messages identifying healthy food choices on a restaurant menu) **Outcome(s) Affected** Sales of low-fat entrees including a chicken sandwich, chicken salad and vegetable soup (sales data)	**Not Reported (for desired health outcomes)** **Net Positive for Purchasing Behavior in the Study Population (Food Pricing)** **(Note: Period 1 = Initial baseline; Period 2 = Price reduction; Period 3 = Interim baseline; Period 4 = Point of purchase messages; Period 5 = Point of purchase messages + price reduction; Period 6 = Final baseline)** **Food Pricing (schools and communities)** PURCHASING BEHAVIOR: 1. For target items, the effect size of period on sales was 0.39, indicating that variability in sales attributable to period was 39%. For control items, 6% of the variability in sales was attributable to period [the sales by period interaction was significant (F(5,796)=10.69, p<0.001] 2. Sales of target items varied based on intervention period (F(5, 398)=22.98, p<0.001). Sales increased during intervention periods and decreased during baseline periods. 3. The price decrease intervention significantly increased sales for each target food item above the initial baseline: chicken sandwich [from mean= 1.81 (SD=1.36) to 12.90 (SD=5.71), p<0.0001], chicken salad [from mean= 2.71 (SD=2.17) to 6.24 (SD=2.43), p<0.0001], soup cup (from mean= 6.71 (SD=3.20) to 15.24 (SD=5.23), p<0.0001) and soup bowl (from mean= 3.24 (SD=1.95) to 8.33 (SD=4.15), p<0.0001). 4. Average sales of all food items during period 3 were lower than those during period 2; differences were significant for the chicken salad and chicken sandwich, (p<0.0001). 5. During period 5, sales of the chicken sandwich and chicken salad were significantly higher than period 1 (p<0.0001 and p<0.05, respectively) and period 3 (p<0.0001 for both), but not period 4. Soup cup and soup bowl sales were significantly higher than period 1 sales (p<0.0001) but not period 3 or 4. 6. Average sales of all items decreased in period 6, and were not significantly different than sales during period 1 (except for soup cup sales, p<0.05). 7. Sales of target items during period 2 were significantly higher than those during period 4 for the chicken sandwich (p<0.001) and the chicken salad (p<0.05). For all foods, sales were higher during the price reduction than the point of purchase message period. 8. Sales during period 4 were consistently the lowest of sales during any intervention period.	**More Evidence Needed** Study design = Intervention evaluation Intervention duration = Low Effect size = Not reported	**Maintenance** Not Reported **Sampling / Representativeness** Not Reported

Study Description	Measures & Outcomes	Effect Size or % Change	Effectiveness	Maintenance & Representativeness
Author French, Jeffery (2001) Minnesota **Design** Intervention Evaluation Time series study **Duration** Medium 12 months	**Measures** *Access to affordable, healthy foods* (presence of a price reduction on low fat snacks in vending machines and promotional signage on vending machines) **Outcome(s) Affected** Vending machine sales (sales data)	**Not Reported (for desired health outcomes)** **Net Positive for Purchasing Behavior in the Study Population (Food Pricing)** **Food Pricing (schools and communities)** PURCHASING BEHAVIOR: 1. Price reduction was significantly associated with percentage of low-fat snack sales (F=156.89, p<0.001). Price reductions of 50%, 25%, and 10% were associated with increases in low-fat snack sales of 93%, 39%, and 9%, respectively. 2. The total number of low-fat snack sales was significantly different by each price reduction condition (F=96.98, p<0.001), but the low-fat snack sales in the 10% price reduction did not differ significantly from the equal price condition. 3. Price reductions of 25% and 50% were associated with significant increases in the absolute number of low-fat snacks sold relative to the equal price and 10% price reduction conditions (p<0.05). 4. The total number of low-fat snacks sold differed significantly between the 25% and 50% price reduction conditions (post hoc comparisons (p<0.05). 5. There was a significant interaction between setting (school or worksite) and price reduction (F=13.9,p<0.0001). The size of the increase in the number of low-fat snack sales in the 50% price reduction condition was slightly larger at schools than worksites.	**More Evidence Needed** Study design = Intervention evaluation Intervention duration = Medium Effect size = Not reported	**Maintenance** Not Reported **Sampling / Representativeness** Not Reported
Author Sturm, Datar (2005); Sturm, Datar (2008) United States **Design** Association Retrospective cross-sectional study (used data from the Early Childhood Longitudinal Study, Kindergarten Class [ECLS-K] from different time points and compared to food pricing data over five years) **Duration** Not Applicable (ECLS-K data was used over a 5 year period)	**Measures** *Access to affordable, healthy foods* (availability of food outlets, fast-food compared with full-service restaurants, convenience stores, and pricing of healthy food options) **Outcome(s) Affected** Overweight/obesity (BMI - ECLS data set)	**Positive Association for Overweight/obesity in the Study Population (Food Pricing)** **Food Pricing (schools and communities)** OVERWEIGHT/OBESITY: 1. Increasing F&V prices by 1 standard deviation would significantly raise BMI by 0.11 BMI units (95% CI: 0.05 - 0.18, p<.001) by 3rd grade. About half of the effect occurred in the first year between kindergarten and 1st grade (0.054 units; 95% CI 0.01 - 0.10, p=.016). 2. Increasing meat prices would lower BMI over 3 years, but this was not statistically significant (-0.025 units, p=0.414). 3. At the lower end of the price distribution, children living in a city with low F&V prices would gain 0.28 BMI units less than the average, while at the upper end of the price distribution, children living in a city with high prices would gain 0.21 units more than the average (the average is already 0.55 units higher than should have been according to growth charts). 4. Point estimates suggest that the protective effect (i.e., lower weight gain) of lower vegetable and fruit prices is 1.5 times larger for children in poverty than for other children (not statistically significant, given sample size). *5 year update:* 5. Increasing F&V prices by 1 standard deviation would significantly raise BMI by 0.20 BMI units by 5th grade (up from 0.11 BMI units by 3rd grade) (p<0.001).	**Positive Association for Overweight/ obesity in the Study Population** Study design = Association Intervention duration = High Effect size =Positive association for overweight/ obesity in the study population	**Maintenance** Not Applicable **Sampling / Representativeness** Not Reported

Study Description	Measures & Outcomes	Effect Size or % Change	Effectiveness	Maintenance & Representativeness
Author Powell, Chriqui (2009) United States **Design** Association Cross-sectional study **Duration** Not Applicable (Cross-sectional surveys taken from 1997-2006)	**Measures** *Access to affordable, healthy foods* (presence of soda taxes in grocery stores and vending machines) **Outcome(s) Affected** Overweight/obesity - Body Mass Index [BMI] (Monitoring the Future surveys from 1997-2006)	**No Association for Overweight/obesity in the Study Population (Food Pricing)** **Food Pricing (schools and communities)** OVERWEIGHT/OBESITY: 1. When all control variables are included, results show no statistically significant association between any of the state-level grocery store or vending machine tax measures and adolescent BMI. 2. When results are reported by subpopulation (defined by weight status, grade, gender, and parents' educational levels), a one percentage point increase in the vending machine tax rate was associated with a 0.006 reduction in BMI among adolescents at risk of overweight (p=0.10).	**No Association for Overweight/obesity in the Study Population** Study design = Intervention evaluation Intervention duration = High Effect size = No association for overweight/obesity in the study population	**Maintenance** Not Applicable **Sampling / Representativeness** Not Reported
Author Ard, Fitzpatrick (2007) Alabama **Design** Association Cross-sectional study **Duration** Not Applicable	**Measures** *Access to affordable, healthy food options* (available prices of fruits and vegetables and home access to healthier food) **Outcome(s) Affected** Overweight/obesity (height and weight to compute BMI), access to healthy foods (Hi5+ Fruit and Vegetable survey, USDA cost data)	**No Association for Overweight/obesity in the Study Population (Food Pricing)** **Positive Association for Home Availability of Healthy Foods in the Study Population (Food Pricing)** **(Assumption: Lower cost of fruits and vegetables leads to greater availability in home leading to a higher consumption of fruits and vegetables resulting in a lower body mass index in children.)** **Food Pricing (schools and communities)** OVERWEIGHT/OBESITY: 1. BMI of the child or parent was not a significant predictor of fruit and vegetable availability in the home. ACCESSIBILITY OF HEALTHY FOODS: 2. Increasing the cost per serving of an item significantly decreased the odds of having the item available in the home by 23% (p<0.001) for each $0.10-unit increase in cost. 3. With squash and oranges removed (the highest priced items), the odds of having remaining fruit and vegetable items available decreased by 30% (p<0.001) as cost increased. 4. Relative to the lowest priced items, when a fruit or vegetable item cost $0.30 or more per serving, the odds of having that item available in the home decreased by one-third (p<0.001). 5. Higher proportions of Whites reported having items such as carrots, applesauce, bananas and raisins. 6. Higher proportions of African Americans reported having items such as greens, sweet potatoes and okra.	**Positive Association for Overweight/obesity in the Study Population** Study design = Association Effect size = No association for overweight/obesity in the study population	**Maintenance** Not Applicable **Sampling / Representativeness** Not Reported

Study Description	Measures & Outcomes	Effect Size or % Change	Effectiveness	Maintenance & Representativeness
Author Beydoun, Powell (2008) United States **Design** Association Cross-sectional study **Duration** Not Applicable	**Measures** *Access to affordable, healthy foods* (available prices of fruits and vegetables and fast food) **Outcome(s) Affected** Overweight/obesity (BMI), risk for overweight, and nutrition (secondary data from USDA)	**Positive Association for Overweight/obesity in the Study Population (Food Pricing)** **Positive Association for Nutrition in the Study Population (Food Pricing)** **(Assumptions: 1) Higher cost of fast food leads to lower consumption of fast food which leads to a lower body mass index and risk for overweight/obesity for those with lower income. 2) Lower cost of fruits and vegetables leads to higher consumption of fruits and vegetables, which leads to a lower body mass index and risk for overweight/obesity for those with lower income.)** **Food Pricing (schools and communities)** OVERWEIGHT/OBESITY: 1. A $1 increase in the fruit and vegetable price index (FVPI) was associated with a significant reduction in BMI (β=-3.9, p<0.05). 2. FVPI was associated with a marked reduction in the proportion of obese, particularly among the near poor (OR: 0.82; 95% CI: 0.67-0.99). 3. Poverty income ratio was a significant effect modifier in the relationship between FVPI and obesity (p<0.10). NUTRITION: 4. For the total population, increasing fast food price index (FFPI) by $1 was associated with a drop in percent saturated fat from total energy intake by 1.1 percentage points, an increase in fiber intake by 2.8 g/day (highest in the middle income category), and an increase in Alternate Mediterranean Diet Score (aMED) score by 0.49 points (out of 10) (p<0.05). 5. For the total population, every $1 increase in FVPI was associated with 1777 mg lower sodium consumption, 141 mg lower cholesterol intake, and 10.8 points more on the Healthy Eating Index overall diet quality index. 6. FFPI had a small significant association with fast food consumption (OR: 0.89; 95% CI: 0.78-1.02). 7. FVPI was positively associated with an improved aMED score among the poor income category (OR: 2.22; 95% CI: 1.22-4.03).	**Positive Association for Overweight/obesity in the Study Population** **Positive Association for Nutrition in the Study Population** Study design = Association Effect size = Positive association for overweight/obesity and nutrition in the study population	**Maintenance** Not Applicable **Sampling / Representativeness** Not Reported
Author Powell, Auld (2006) United States **Design** Association Cross-sectional study **Duration** Not Applicable	**Measures** *Access to affordable, healthy foods* (density of full service and fast food restaurants and prices of fruits and vegetables and fast food) **Outcome(s) Affected** Overweight/obesity (BMI), risk for overweight, and dietary consumption (Monitoring the Future survey data; Dun and Bradstreet density measures; American Chamber of Commerce Researchers Association price data)	**Positive Association for Overweight/obesity in the Study Population (Food Pricing)** **No Association for Nutrition in the Study Population (Food Pricing)** **(Assumptions: 1) Higher cost of fast food leads to reduced consumption of fast food, which leads to lower body mass index and overweight. 2) Higher cost of fruits and vegetables leads to reduced consumption of fruits and vegetables, which leads to higher body mass index and overweight. 3) Increased availability of fast food restaurants leads to higher consumption of unhealthy food choices, which leads to higher body mass index and overweight.)** **Food Pricing (schools and communities)** OVERWEIGHT/OBESITY: 1. When year effects are not considered, fast food and F&V prices both statistically significantly impact body mass index (BMI) (p=0.01). BMI is lower when fast food prices are higher and when F&V prices are lower. 2. When year effects are included, the magnitude of the F&V price effect on BMI drops by more than half and loses statistical significance. The estimated effect on BMI of a $1 change in the price of a fast food meal falls by almost half to 0.31 m/kg^2, but remains statistically significant (p=0.05). 3. Controlling for year effects, a $1 increase in fast food reduces prevalence of overweight by 2.2 percentage points (p=0.05). 4. A 10% increase in the price of a fast food meal leads to a 0.4% decrease in BMI and a 5.9% decrease in prevalence of overweight. NUTRITION: 5. A $1 increase in the price of fast food is statistically significantly associated with a reduction in frequent consumption of F&V, by 7.3 percentage points when year effects are not included (p=0.01) and by 6.7 % points when year effects are included (p=0.01). 6. A $1 increase in the price of F&V is estimated to decrease F & V consumption by 6.3 percentage points (z=2.05, p=0.05), but loses some statistical significance when year effects are included (z=1.79, p=0.10).	**Positive Association for Overweight/obesity in the Study Population** **No Association for Nutrition in the Study Population** Study design = Association Effect size = Positive association for overweight/obesity in the study population and a no association for nutrition in the study population	**Maintenance** Not Applicable **Sampling / Representativeness** Not Reported

Study Description	Measures & Outcomes	Effect Size or % Change	Effectiveness	Maintenance & Representativeness
Author Powell, Bao (2009) United States **Design** Association Cross-sectional study **Duration** Not Applicable	**Measures** *Access to affordable, healthy foods* (availability of supermarkets and food outlets and prices of energy-dense and healthy food options) **Outcome(s) Affected** Child Overweight/ obesity (BMI) (National Longitudinal Survey of Youth 1979 data; American Chamber of Commerce Researchers Association data; Dun and Bradstreet business lists; Census 2000 population estimates)	**Positive Association for Overweight/obesity in the Study Population (Food Pricing)** **(Assumptions: 1) Higher cost of fast food leads to reduced consumption of unhealthy fast food, which leads to lower body mass index and overweight. 2) Higher cost of fruits and vegetables leads to reduced consumption of fruits and vegetables, which leads to higher body mass index and overweight. 3) Increased availability of supermarkets leads to increased availability of fruits and vegetables, which leads to higher fruit and vegetable consumption that results in lower body mass index and overweight. 4) Increased availability of food outlets leads to increased availability of fruits and vegetables, which leads to higher fruit and vegetable consumption that results in lower body mass index and overweight.)** **Food Pricing (schools and communities)** OVERWEIGHT/OBESITY: 1. A $1 increase in the price of fruits and vegetables raises body mass index (BMI) by 2.0 units. Increasing the price of fruit and vegetables by 1 standard deviation increases BMI by 2.0 units (p=0.01). 2. A 10% increase in the price of fruits and vegetables was associated with a 0.7% increase in child BMI (p=0.01). 3. Fast food prices were not found to be statistically significant in the full sample but were weakly negatively associated with BMI among adolescents with an estimated price elasticity of 0.12. 4. The associations of fruit and vegetable and fast food prices with BMI were significantly stronger both economically and statistically among low-versus high-socioeconomic status children. 5. For the full sample, the BMI fruit and vegetable price elasticity is 0.07(p=0.01) and the fast food price elasticity of BMI is -0.07 (not significant).	**Positive Association for Overweight/ obesity in the Study Population** Study design = Association Effect size = Positive association for overweight/ obesity in the study population	**Maintenance** Not Applicable **Sampling / Representativeness** Not Reported
Author Hannan, French (2002) Location not reported **Design** Association Cross-sectional study **Duration** Not Applicable Only descriptive data provided	**Measures** *Access to affordable, healthy foods* (presence of price increases in high-fat foods and decreases in lower-fat foods at schools) **Outcome(s) Affected** Food sales (sales data)	**Not Reported (for desired health outcomes)** **Positive Association for Purchasing Behavior in the Study Population (Food Pricing)** **Food Pricing (schools and communities)** PURCHASING BEHAVIOR: 1. The low fat food sales averaged 13.1% of sales for the targeted foods, ranging between 10% and 16% with no consistent trend or pattern. 2. For individual foods, sales of fresh fruit tended to increase throughout the study period, sales of low-fat cookies and low-fat chips initially increased but then decreased and sales of the low-fat cereal bars remained stable. 3. High-fat foods showed a slow decline in sales. MODELING RESULTS: 4. Total revenue for the seven targeted foods is expected to average 6.2% lower if the price elasticity for targeted high-fat foods equals -1.5, and 4.6% higher if the price elasticity for these high-fat foods equals -0.5. 5. Based on the model used in the study, at a price elasticity of -1.0, the revenues are expected to be down 0.8%. 6. According to the sensitivity analysis, the worst scenario is for an expected 7.1% loss of revenue under the model when price elasticity for low-fat foods is -1.0 and the price elasticity for high-fat foods is -1.5. 7. With the actual pricing strategy and the simple econometric model used, the average price elasticity for high-fat foods that would make the intervention revenue-neutral is -0.93.	**More Evidence Needed** Study design = Descriptive Effect size = Not reported	**Maintenance** Not Applicable **Sampling / Representativeness** Not Reported

Study Description	Measures & Outcomes	Effect Size or % Change	Effectiveness	Maintenance & Representativeness
Author Epstein, Dearing (2007) New York **Design** Descriptive Non-comparative study **Duration** Not Applicable Only descriptive data provided	**Measures** *Access to affordable, healthy foods* (presence of price changes on purchase of low- and high-energy density foods) **Outcome(s) Affected** Hypothetical low-energy-density (LED) and high-energy-density (HED) food purchasing behavior when pricing changes and BMI (height, weight)	**Positive Association for Overweight/obesity in the Study Population (Food Pricing)** **Positive Association for Purchasing Behavior in the Study Population (Food Pricing)** **(Assumption: As prices of HED foods increase purchasing frequency of HED foods will decrease and purchasing frequency of LED foods will increase.)** **Food Pricing (schools and communities)** OVERWEIGHT/OBESITY: 1. Maternal BMI interacted with price to influence purchases of HED foods when the price of HED foods increased (p=0.016) and interacted with price to influence purchases of LED foods when the price of HED foods increased (p=0.008). 2. The own-price elasticity of HED foods for the non-obese and obese mothers was -1.051 (p<0.001) and -0.767 (p<0.001), respectively, with the non-obese mothers being more sensitive to increases in the price of HED foods than were the obese mothers. 3. Non-obese mothers were more likely than obese mothers to substitute LED foods for HED foods when the price of HED foods increased. 4. Own-price elasticity for HED foods differed on the basis of BMI as evidenced by the significant interaction between the price of HED foods and BMI (coefficient=0.023, p=0.016). 5. Cross-price elasticity for LED foods was also related to BMI, as evidenced by the significant interaction between the price of HED foods and BMI (coefficient=-0.017, p=0.008). PURCHASING BEHAVIOR: 6. A cross price elasticity of 0.622 means that when HED prices are increased by 10%, the demand for LED foods increases by 6.22%. When the price of HED foods increased, there was an increase in purchases of LED foods. Mothers in the $30 per family member condition purchased 4028.0 kcal of LED foods when the price of HED foods was 75% of the reference price, and 4350.3 kcal of LED foods when the price of HED foods was 125% of the reference price. 7. Because the cost per 100 kcal is less for HED foods than for LED foods, mothers purchased more energy from the HED foods than from the LED foods at each price comparison. For example, according to the average energy for foods purchased in the LED and HED food groups, mothers in the $30 per family member condition purchased 8309.9 kcal of HED foods but only 5116.7 kcal of LED foods when the price of these foods was reduced to 75% of the reference price, and 4701.1 kcal of HED foods compared with 3222.6 kcal of LED foods when the price of these foods was 125% of the reference price. 8. Hunger was a significant predictor of purchases of both LED (coefficient=-0.041, p=0.008) and HED (coefficient=0.060, p=0.005) foods. Hungrier mothers purchased more HED and less LED foods. (Note: High-energy dense foods = HED and Low-energy dense foods = LED; Own-price elasticity is the percentage change in quantity demanded in response to a one percent change in price. Cross price elasticity is the percentage change in demand for HED foods that occurs in response to a percentage change in price of LED foods or vice versa.)	**Positive Association for Overweight/ obesity in the Study Population** Study design = Descriptive Effect size = Positive association for overweight/ obesity in the study population	**Maintenance** Not Reported **Sampling / Representativeness** Not Reported
Author Epstein, Handley (2006) New York **Design** Descriptive Non-comparative study **Duration** Not Applicable Only descriptive data provided	**Measures** *Access to affordable, healthy foods* (purchasing behavior) **Outcome(s) Affected** Hypothetical purchasing behavior when pricing changes (parental questionnaire, hunger scale, likeness scale, height, weight)	**Not Reported (for desired health outcomes)** **Positive Association for Purchasing Behavior in the Study Population (Food Pricing)** **Food Pricing (schools and communities)** PURCHASING BEHAVIOR: 1. The estimates for same-price elasticity for healthy and unhealthy foods were significant and strong (-1.010 and -0.921, respectively). The estimates for cross-price elasticity were also negative and significant (-0.262 and -0.143 for healthy and unhealthy foods, respectively), but lower than the estimates for same-price elasticity. 2. Estimates for the same-price elasticity (-1.651, Prep=0.999, d=4.42, p<0.001) and cross-price elasticity (0.974, Prep=0.997, d=2.61, p<0.001) were significant for purchases of healthy foods. 3. Income interacted with the price of unhealthy foods to influence purchase of healthy foods (estimate=-0.300, Prep=0.998, d=0.80, p<0.001). Same-price elasticity (estimate=-2.109, Prep=0.999, d=6.01, p<0.001) and cross-price elasticity (estimate=0.491, Prep=0.923, d=1.398, p=0.23) were observed for purchases of unhealthy foods. 4. Income interacted with the price of healthy foods (estimate=-0.133, Prep=0.898, d=0.39, p=0.036) and the price of unhealthy foods (estimate=0.136, Prep=0.892, d=0.38, p=0.40) to influence purchase of unhealthy foods. (Note: Elasticity refers to the ratio of the percentage change in one variable to the percentage change in another variable. Cross price elasticity is the percentage change in demand for one variable that occurs in response to a percentage change in price of another variable.)	**More Evidence Needed** Study design = Descriptive Effect size = Not reported	**Maintenance** Not Reported **Sampling / Representativeness** Not Reported

Study Description	Measures & Outcomes	Effect Size or % Change	Effectiveness	Maintenance & Representativeness
International				
Author Haerens, Deforche (2006); Haerens, De Bourdeauduij (2007); Haerens, De Bourdeauduij (2006); Haerens, Cerin (2007); Haerens, Cerin (2007); Haerens, Deforche (2006) Belgium **Design** Intervention Evaluation Group randomized trial **Duration** High 2 school years	**Measures** *Access to affordable, nutrition options* (reducing price of fruits, vegetables, and water, free drinking water through fountains, and pricing water cheaper than soft drinks and offering fruit for dessert) **Outcome(s) Affected** Overweight/obesity (height and weight to compute BMI), dietary consumption (food frequency questionnaire), physical activity (accelerometers, physical activity questionnaire)	**Net Positive for Overweight/obesity in the Study Population (Food Pricing)** **Net Positive for Overweight/obesity in Girls (Food Pricing)** **Net Neutral for Overweight/obesity in Boys (Food Pricing)** **Net Neutral for Nutrition in the Study Population (Food Pricing)** **Net Neutral for Nutrition in Boys (Food Pricing)** **Net Positive for Nutrition in Girls (Food Pricing)** **Food Pricing (schools and communities)** OVERWEIGHT/OBESITY: *After Two Years* 1. For all analyses, variance at the school level was not significant (all z <1.59). 2. For girls there was a significantly lower increase in BMI (from 20.23 ± 3.95 to 21.34 ± 3.83) in the intervention with parent group compared to control (from 19.12 ± 3.50 to 20.78 ± 3.66), F=12.52, p<0.05. 3. For girls there was a significantly lower increase in BMI z score (from 0.24 ± 1.11 to 0.24 ± 1.06) in the intervention with parent group, compared to control (from -0.03 ± 1.05 to 0.14 ± 1.00), F=8.61, p<0.05. 4. In addition, there was a significantly lower increase in BMI z score (from 0.24 ± 1.11 to 0.24 ± 1.06) in the intervention with parent group, compared to intervention no parent group (from 0.28 ± 0.97 to 0.35 ± 0.96), F= 2.68, p=0.05. 5. In boys, no significant positive intervention effects were found. 6. BMI z-score increased significantly more in schools with low levels of implementation, when compared with schools with medium (F=5.03, p<0.05) and high (F=2.80, p<0.05) levels of implementation. After 2 years of the intervention, BMI z-score increased with 0.12 units in the schools with low levels of implementation and with 0.06 and 0.09 units, respectively, in schools with medium and high levels of implementation. NUTRITION: *After One Year* 7. The intervention was not effective in increasing self reported fruit intake and water consumption or decreasing soft drink consumption. 8. Fat intake decreased significantly more in girls in the intervention with parent group, compared to the intervention no parent group (F=6.1, p<0.05) and control group (F=17.3, p<0.001). 9. Percentage of energy from fat also decreased significantly more in girls in the intervention with parent group, compared to the intervention no parent group (F=3.9, p<0.05) and control group (F=16.7, p<0.001). 10. No significant effect for fat intake or percentage of energy from fat among boys. *After Two Years* 11. In year 2 for girls, decreases in fat intake were higher in the intervention groups (-20g/day) when compared to control group (-10g/day), F=5.8, p<0.05. Percentage of energy from fat decreased by 9% in the intervention group and 5% in the control group (F=13.3, p<0.001).	**Effective for Overweight/ obesity in the Study Population** **Effective for Overweight/ obesity in Girls** **Not Effective for Overweight/ obesity in Boys** **Not Effective for Nutrition in the Study Population** **Not Effective for Nutrition in Boys** **Effective for Nutrition in Girls** Study design = Intervention evaluation Intervention duration = High Effect size= Net positive for overweight/ obesity in the study population and girls, net neutral for overweight/obesity in boys, net neutral for nutrition in the study population and boys, and net positive for nutrition in girls	**Maintenance** Not Reported **Sampling / Representativeness** Not Reported

Study Description	Measures & Outcomes	Effect Size or % Change	Effectiveness	Maintenance & Representativeness
Author Pearson, Russell (2005) United Kingdom **Design** Association Cross-sectional study **Duration** Not Applicable Only cross-sectional data provided	**Measures** *Access to affordable, healthy foods* (prices of fruits and vegetables and access to supermarkets and grocery stores) **Outcome(s) Affected** Dietary consumption (24-hour recall, demographics questionnaire; shopping basket survey)	**No Association for Nutrition in the Study Population (Food Pricing)** **(Assumptions: 1) Greater distance to supermarkets leads to less availability of fruits and vegetable which leads to lower fruit and vegetable consumption. 2) Lower cost of fruits and vegetables leads to higher fruit and vegetable consumption.)** **Food Pricing (schools and communities)** NUTRITION: 1. Supermarket fruit and vegetable price was not significantly associated with either fruit or vegetable consumption.	**No Association for Nutrition in the Study Population** Study design = Association Effect size = No association for nutrition in the study population	**Maintenance** Not Applicable Only cross-sectional data provided **Sampling / Representativeness** Not Reported

IMPACT TABLES

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
United States						
Author Harnack, French (2008) Minnesota	**Participation/ Potential Exposure** Participation = Not Reported Exposure = Not Reported **High-Risk Population** Not Reported ~25% racial/ ethnic populations (evaluation sample)	**Representative** Not Reported **Potential Population Reach** More Evidence Needed Participation = Not reported Exposure = Not reported Representativeness = Not reported **Potential High Risk Popluation Reach** More Evidence Needed High-risk population = Not reported Representativeness = Not reported	**Intervention Components** Multi-Component Elimination of value size pricing (per unit cost decreases as portion size increases) and use of standardized prices (price per ounce standardized across portions size options) MULTI-COMPONENT: 1. Menu labels added (calorie information) and removed (value pricing) at McDonald's **Feasibility** Intervention Feasibility = Low (numerous steps and resources needed for this particular experiment) Policy Feasibility = High Intervention activities: Menu labels, price changes (standardized pricing) Specialized expertise: Not reported Resources needed: Incentives ($25 gift card), advertisements for recruitment, personnel to distribute menus and pick up food, funds for the meals ordered, car to pick up the meals, menus, conference room and basement in church Costs: Not reported **Implementation Complexity** High Intervention components = Multi-component Feasibility = High	**Population Impact** No Impact for Nutrition in the Study Population No Impact for Nutrition in Men Effectiveness = Not effective for nutrition in the study population or in men Potential population reach = More Evidence Needed Implementation complexity = High **High-risk Population Impact** More Evidence Needed Effectiveness for high-risk populations = Not reported Potential high-risk population reach = More evidence needed Implementation complexity = High **Sustainability** Not Applicable Efficacy trial	**Menu Labeling** NUTRITION: 1. No significant differences (p=0.25) in the average number of calories consumed by those in the calorie, price, calorie plus price, and control menu conditions (805, 813, 761 and 739 respectively). Selection and consumption of major food categories and portion sizes did not differ by condition. 2. Average energy intake was higher among males in the calorie, price and calorie plus price conditions compared to controls (p=0.01).	1. Among those who reported that nutrition was important when buying food from a fast food restaurant, average energy intake was significantly lower among those who received the control and calorie plus price menus relative to those that reported nutrition was not important (p<0.01). 2. Among those who reported price was not important when buying food from a fast food restaurant, average energy intake was lowest among those in the control condition (598 kcal) and highest among those in the calorie plus price condition (948 kcal, p=0.01). 3. Multivariate regression indicated that average energy intake was comparable between those who reported noticing the calorie information and those who did not (690 kcal versus 671 kcal; p=0.65).

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
Author Horgen, Brownell (2002) Location not reported	**Participation/ Potential Exposure** Participation = Not Reported Exposure = High Approx. 225-275 customers patronized the restaurant daily. The restaurant served a varying clientele but did have a substantial base of regular (i.e., weekly) customers. **High-Risk Population** Low The restaurant was located in a relatively affluent area of a city of about 250,000 people. The majority of customers represented a Caucasian, upper-middle-class socioeconomic group	**Representative** Not Reported **Potential Population Reach** More Evidence Needed Participation/ potential exposure = High Representativeness = Not reported **Potential High Risk Popluation Reach** More Evidence Needed High-risk population = Low Representativeness = Not reported	**Intervention Components** Multi-Component Prices of healthy food lowered by 20%-30% in restaurants <u>MULTI-COMPONENT:</u> 1. Point of purchase messages identifying healthy food choices in restaurants **Feasibility** Intervention Feasibility = Low (costs and training) Policy Feasibility = High Intervention activities: Menu labels identifying healthy food choices and lower prices for healthy food items Specialized expertise: Not reported Resources needed: Point of purchase messages and related materials; funds to compensate restaurant for the price reductions; personnel to train restaurant staff Costs: Not reported **Implementation Complexity** High Intervention components = Multi-component Feasibility = High	**Population Impact** More Evidence Needed Effectiveness = More evidence needed Potential population reach = More evidence needed Implementation complexity = High **High-risk Population Impact** More Evidence Needed Effectiveness for high-risk populations = Not reported Potential high-risk population reach = More evidence needed Implementation complexity = High **Sustainability** Not Reported	**Point of Purchase Prompts for Nutrition** <u>NUTRITION:</u> 1. For target items, the effect size of period on sales was 0.39, indicating that variability in sales attributable to period was 39%. For control items, 6% of the variability in sales was attributable to period [the sales by period interaction was significant ($F(5,796)=10.69$, $p<0.001$] 2. Sales of target items varied based on intervention period ($F(5, 398)=22.98$, $p<0.001$). Sales increased during intervention periods and decreased during baseline periods. 3. Mean sales of all items rose during period 4 from period 3 levels, but none of the increases were significant. However, the increases in sales of the target chicken sandwich ($p<0.05$), soup cup ($p<0.01$) and soup bowl ($p<0.01$) were significantly higher than period 1 sales. 4. During period 5, sales of the chicken sandwich and chicken salad were significantly higher than period 1 ($p<0.0001$ and $p<0.05$, respectively) and period 3 ($p<0.0001$ for both), but not period 4. Soup cup and soup bowl sales were significantly higher than period 1 sales ($p<0.0001$) but not period 3 or 4. 5. Average sales of all items decreased in period 6, and were not significantly different than sales during period 1 (except for soup cup sales, $p<0.05$). 6. Sales of target items during period 2 were significantly higher than those during period 4 for the chicken sandwich ($p<0.001$) and the chicken salad ($p<0.05$). For all foods, sales were higher during the price reduction than the point of purchase message period. 7. Sales during period 4 were consistently the lowest of sales during any intervention period. (Note: Period 1: Initial baseline; Period 2: Price reduction; Period 3: Interim baseline; Period 4: Point of purchase messages; Period 5: Point of purchase messages + price reduction; Period 6: Final baseline)	Not Reported

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
Author French, Jeffery (2001) Minnesota	**Participation/ Potential Exposure** Participation = Not Reported Exposure = High Anyone using vending machines were potentially exposed to the intervention. **High-Risk Population** Not Reported Adults 14-18 year olds	**Representative** Not Reported **Potential Population Reach** More Evidence Needed Participation = Not reported Exposure = High Representativeness = Not reported **Potential High Risk Popluation Reach** More Evidence Needed High-risk population = Not reported Representativeness = Not reported	**Intervention Components** Multi-Component Pricing strategies examined on low-fat snacks from 55 vending machines in high schools and worksites. Four levels of pricing utilized: 1. Equal price 2. 10% price reduction 3. 25% price reduction 4. 50% price reduction MULTI-COMPONENT: Three levels of promotional signage examined: 1. No signs 2. Signs labeling low-fat snacks 3. Signs labeling low-fat snacks combined with signs placed on vending machines encouraging a low-fat snack choice. **Feasibility** Intervention Feasibility = High Policy Components Feasibility = High Intervention activities: Price changes, promotional strategies Specialized expertise: Not reported Resources needed: Vending machines, promotion signage, vending route drivers, low-fat snacks Costs: Not reported **Implementation Complexity** High Intervention components = Multi-component Feasibility = High	**Population Impact** More Evidence Needed Effectiveness = More evidence needed Potential population reach = More evidence needed Implementation complexity = High **High-risk Population Impact** More Evidence Needed Effectiveness for high-risk populations = Not reported Potential high-risk population reach = More Evidence Needed Implementation complexity = High **Sustainability** Not Reported	**Point of Purchase Prompts for Nutrition** NUTRITION: 1. Promotion of low-fat snacks was significantly and independently associated with greater low-fat snack sales ($F=3.48$, $p<0.04$). 2. The percentages of low-fat snack sold in the no-label, label-only, and label-plus-sign conditions were 14.3, 14.5, and 15.4, respectively. Only the label-plus-sign condition differed significantly from the no-label condition. Total number of low-fat snack sales did not differ significantly by promotion condition, but the label-plus-sign condition differed significantly from the no-label condition ($p<0.05$).	Average profits were not affected by the vending machine pricing strategies

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
Author Sturm, Datar (2005) Sturm, Datar (2008) United States	**Participation/ Potential Exposure** Not Applicable **High-Risk Population** Not Applicable Only cross-sectional data provided. Children 5-10 years old 59.3% White, 12.8% African American, 18.4% Hispanic, 5.8% Asian, 3.7% other (evaluation sample)	**Representative** Not Applicable **Potential Population Reach** Not Applicable **Potential High Risk Popluation Reach** Not Applicable	**Intervention Components** Not Applicable Only cross-sectional data provided. Food pricing in grocery stores, convenience stores, full-service restaurants and fast-food restaurants over a five-year period. MULTI-COMPONENT: 1. Food store and restaurant density **Feasibility** Not Applicable **Implementation Complexity** Not Applicable	**Population Impact** Not Applicable **High-risk Population Impact** Not Applicable **Sustainability** Not Applicable	**Neighborhood Availabiltiy of Food Stores and Restaurants** OVERWEIGHT/OBESITY: 1. No robust effects were found between differential changes in BMI and any of the following: per capita measures of food outlets, relative shares of fast-food restaurants compared with full-service restaurants, or convenience stores compared with grocery stores.	Not Reported
Author Powell, Chriqui (2009) United States	**Participation/ Potential Exposure** Not Applicable **High-Risk Population** Not Applicable Only cross-sectional data provided. Adolescents 11-19 years old 70% White, 10% African American, 10% Hispanic and 10% Other race (evaluation sample)	**Representative** Not Applicable **Potential Population Reach** Not Applicable **Potential High Risk Popluation Reach** Not Applicable	**Intervention Components** Not Applicable State-level grocery store and vending machine soda tax rates **Feasibility** Not Applicable **Implementation Complexity** Not Applicable	**Population Impact** Not Applicable **High-risk Population Impact** Not Applicable **Sustainability** Not Applicable	Not Reported	Not Reported

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
Author Ard, Fitzpatrick (2007) Alabama	**Participation/ Potential Exposure** Not Applicable **High-Risk Population** Not Applicable Only cross-sectional data provided Children 5-10 years old 68% White, 32% African American (evaluation sample)	**Representative** Not Applicable **Potential Population Reach** Not Applicable **Potential High Risk Popluation Reach** Not Applicable	**Intervention Components** Not Applicable Only cross-sectional data provided. Fruit and vegetable (F&V) cost influence on fruit and vegetable availability in homes of school children **Feasibility** Not Applicable **Implementation Complexity** Not Applicable	**Population Impact** Not Applicable **High-risk Population Impact** Not Applicable **Sustainability** Not Applicable	Not Reported	Not Reported
Author Beydoun, Powell (2008) United States	**Participation/ Potential Exposure** Not Applicable **High-Risk Population** Not Applicable Only cross-sectional data provided Adults; 26% racial/ ethnic populations, 22% lower-income, 51% female, 36% living in the South, 47% living in suburban areas (evaluation sample)	**Representative** Not Applicable **Potential Population Reach** Not Applicable **Potential High Risk Popluation Reach** Not Applicable	**Intervention Components** Not Applicable Only cross-sectional data provided. Association of fast foods (FFs) and fruits and vegetables (F&V) prices on intake by income level **Feasibility** Not Applicable **Implementation Complexity** Not Applicable	**Population Impact** Not Applicable **High-risk Population Impact** Not Applicable **Sustainability** Not Applicable	Not Reported	Not Reported
Author Powell, Auld (2006) United States	**Participation/ Potential Exposure** Not Applicable **High-Risk Population** Not Applicable Only cross-sectional data provided 12-17 year olds	**Representative** Not Applicable **Potential Population Reach** Not Applicable **Potential High Risk Popluation Reach** Not Applicable	**Intervention Components** Not Applicable Only cross-sectional data provided. Fruit and vegetable and fast-food costs MULTI-COMPONENT: 1. Neighborhood restaurant density **Feasibility** Not Applicable **Implementation Complexity** Not Applicable	**Population Impact** Not Applicable **High-risk Population Impact** Not Applicable **Sustainability** Not Applicable	**Neighborhood Availability of Restaurants** OVERWEIGHT/OBESITY: 1. BMI is higher when there are fewer full service restaurants, more fast food restaurants, or higher F & V prices, but none of the results are statistically significant. NUTRITION: 2. Increased availability of full service restaurants has a statistically signification relationship with frequent F&V consumption. Ten more full service restaurants per capita in the region were associated with a 1.9 percentage point increase in the probability of frequent consumption (p=0.01).	Not Reported

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
Author Powell, Bao (2009) United States	**Participation/ Potential Exposure** Not Applicable **High-Risk Population** Not Applicable Only cross-sectional data provided 5-18 year olds; 21% racial/ethnic populations (evaluation sample)	**Representative** Not Applicable **Potential Population Reach** Not Applicable **Potential High Risk Popluation Reach** Not Applicable	**Intervention Components** Not Applicable Only cross-sectional data provided. Food pricing of energy-dense foods and healthy foods MULTI-COMPONENT: 1. Neighborhood food store density **Feasibility** Not Applicable **Implementation Complexity** Not Applicable	**Population Impact** Not Applicable **High-risk Population Impact** Not Applicable **Sustainability** Not Applicable	**Neighborhood Availability of Food Stores** OVERWEIGHT/OBESITY: 1. Increased supermarket availability is statistically significantly associated with lower BMI (-0.1928, SD=0.0772, P<0.05). 2. Food outlets, considered as a whole, were not found to have a strong statistical significant association with children's BMI when defined either on a per capita or per land area basis.	Not Reported
Author Hannan, French (2002) Location not reported	**Participation/ Potential Exposure** Not Applicable **High-Risk Population** Not Applicable Only cross-sectional data provided. 13% racial/ethnic populations, 8% lower income (evaluation sample)	**Representative** Not Applicable **Potential Population Reach** Not Applicable **Potential High Risk Popluation Reach** Not Applicable	**Intervention Components** Not Applicable Only cross-sectional data provided. School policy to raise the price of three popular high-fat food items by ~10% and lower the price of four lower fat items by ~25% for one school year. MULTI-COMPONENT: 1. Policy to target high fat foods in schools **Feasibility** Not Applicable **Implementation Complexity** Not Applicable	**Population Impact** Not Applicable **High-risk Population Impact** Not Applicable **Sustainability** Not Reported	**School Food and Beverage Policies** FOOD SALES: 1. The low fat food sales averaged 13.1% of sales for the targeted foods, ranging between 10% and 16% with no consistent trend or pattern. 2. For individual foods, sales of fresh fruit tended to increase throughout the study period, sales of low-fat cookies and low-fat chips initially increased but then decreased and sales of the low-fat cereal bars remained stable. 3. High-fat foods showed a slow decline in sales. MODELING RESULTS: 4. Total revenue for the seven targeted foods is expected to average 6.2% lower if the price elasticity for targeted high-fat foods equals -1.5, and 4.6% higher if the price elasticity for these high-fat foods equals -0.5. 5. Based on the model used in the study, at a price elasticity of -1.0, the revenues are expected to be down 0.8%. 6. According to the sensitivity analysis, the worst scenario is for an expected 7.1% loss of revenue under the model when price elasticity for low-fat foods is -1.0 and the price elasticity for high-fat foods is -1.5. 7. With the actual pricing strategy and the simple econometric model used, the average price elasticity for high-fat foods that would make the intervention revenue-neutral is -0.93.	Not Reported

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
Author Epstein, Dearing (2007) New York	**Participation/ Potential Exposure** Not Applicable **High-Risk Population** Not Applicable Only descriptive data provided for artificial setting. 21.3% minority population (evaluation sample)	**Representative** Not Applicable **Potential Population Reach** Not Applicable **Potential High Risk Popluation Reach** Not Applicable	**Intervention Components** Not Applicable Only descriptive data provided for artificial setting. Laboratory food-purchasing experiment to assess influence of price changes of low-energy-density (LED) and high-energy-density (HED) foods on mother's food purchases **Feasibility** Not Applicable **Implementation Complexity** Not Applicable	**Population Impact** Not Applicable **High-risk Population Impact** Not Applicable **Sustainability** Not Applicable	Not Reported	Not Reported
Author Epstein, Handley (2006) New York	**Participation/ Potential Exposure** Not Applicable **High-Risk Population** Not Applicable Only descriptive data provided for artificial setting. <35% minority population (evaluation sample)	**Representative** Not Applicable **Potential Population Reach** Not Applicable **Potential High Risk Popluation Reach** Not Applicable	**Intervention Components** Not Applicable Only descriptive data provided for artificial setting. Laboratory experiment to assess influence of price on purchase of healthy and unhealthy foods **Feasibility** Not Applicable **Implementation Complexity** Not Applicable	**Population Impact** Not Applicable **High-risk Population Impact** Not Applicable **Sustainability** Not Applicable	Not Reported	Not Reported

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
International						
Author Haerens, Deforche (2006); Haerens, De Bourdeauduij (2007); Haerens, De Bourdeauduij (2006); Haerens, Cerin (2007); Haerens, Cerin (2007); Haerens, Deforche (2006) Belgium	**Participation/ Potential Exposure** Participation = Not Reported Exposure = High All children in the 10 intervention schools were exposed to the nutrition and physical activity policies; all children in the 5 intervention with parent schools were exposed to the parent component. **High-Risk Population** Not Reported (for intervention population) 11-18 year olds 68% lower income (evaluation sample)	**Representative** Not Reported **Potential Population Reach** More Evidence Needed Participation/ potential exposure = High Representativeness = Not reported **Potential High Risk Popluation Reach** More Evidence Needed High-risk population = Not reported Representativeness = Not reported	**Intervention Components** Multi-Component School policy to increase healthy food choices by: 1. Selling fruit at school for a very low price or for free at least once a week 2. Pricing water lower than soft drinks 3. Offering fruit for dessert during lunch MULTI-COMPONENT: 1. Physical activity (PA) component to increase levels of moderate to vigorous physical activity (MVPA) to at least 60 min/day. Activities included PA during breaks using varied content to reach all students, provision of extra sports materials, encouragement of active transportation to school, and a computer-tailored PA classroom lesson. 2. Access to free water through drinking fountains COMPLEX: 1. Computer-tailored classroom lesson on fat and fruit intake 2. Parent component including interactive meeting on healthy living, newsletters/school paper 3 times/yr and adult computer-tailored intervention for fat intake and PA **Feasibility** Intervention Feasibility = High Policy Components Feasibility = High Intervention activities: Changes in food prices, offering additional fruit at school, physical activity breaks, provision of extra sports materials, computer-tailored classroom lessons (physical activity and health eating), interactive parent meetings, parent newsletters, computer-tailored lessons for parents Specialized expertise: Development of a workgroup to guide intervention delivery Resources needed: Computers, CD-ROM for the adult computer intervention, sports materials (jump ropes, balls etc.), funds for subsidizing fruit and water, materials for meetings with parents, newsletters for parents Costs: Not reported **Implementation Complexity** High Intervention components = Multi-component Feasibility = High	**Population Impact** More Evidence Needed Effectiveness = Effective for overweight/ obesity in the study population, effective for overweight/ obesity in girls, not effective for overweight/obesity in boys, not effective for nutrition in the study population, not effective for nutrition in boys, effective for nutrition in girls, effective for physical activity in the study population, effective for physical activity in girls, effective for physical activity in boys Potential population reach = More evidence needed Implementation complexity = High **High-risk Population Impact** More Evidence Needed Effectiveness for high-risk populations = Not reported Potential high-risk population reach = More evidence needed Implementation complexity = High **Sustainability** Not Reported	**Provision of Drinking Water and School Food and Beverage Policies** OVERWEIGHT/OBESITY: *After Two Years* 1. For all analyses, variance at the school level was not significant (all z< 1.59). 2. For girls there was a significantly lower increase in BMI (from 20.23 ± 3.95 to 21.34 ± 3.83) in the intervention with parent group compared to control (from 19.12 ± 3.50 to 20.78 ± 3.66), F=12.52, p<0.05. 3. For girls there was a significantly lower increase in BMI z-score (from 0.24 ± 1.11 to 0.24 ± 1.06) in the intervention with parent group, compared to control (from -0.03 ± 1.05 to 0.14 ± 1.00), F=8.61, p<0.05. 4. In addition, there was a significantly lower increase in BMI z-score (from 0.24 ± 1.11 to 0.24 ± 1.06) in the intervention with parent group, compared to intervention no parent group (from 0.28 ± 0.97 to 0.35 ± 0.96), F= 2.68, p=0.05. 5. In boys, no significant positive intervention effects were found. 6. BMI z-score increased significantly more in schools with low levels of implementation, when compared with schools with medium (F=5.03, p<0.05) and high (F=2.80, p<0.05) levels of implementation. After 2 years of the intervention, BMI z-score increased with 0.12 units in the schools with low levels of implementation and with 0.06 and 0.09 units, respectively, in schools with medium and high levels of implementation. NUTRITION: *After One Year* 7. The intervention was not effective in increasing self reported fruit intake and water consumption or decreasing soft drink consumption. 8. Fat intake decreased significantly more in girls in the intervention with parent group, compared to the intervention no parent group (F=6.1, p<0.05) and control group (F=17.3, p<0.001). 9. Percentage of energy from fat also decreased significantly more in girls in the intervention with parent group, compared to the intervention no parent group (F=3.9, p<0.05) and control group (F=16.7, p<0.001). 10. No significant effect for fat intake or percentage of energy from fat among boys. *After Two Years* 11. In year 2 for girls, decreases in fat intake were higher in the intervention groups (-20g/day) when compared to control group (-10g/day), F=5.8, p<0.05. Percentage of energy from fat decreased by 9% in the intervention group and 5% in the control group (F=13.3, p<0.001). PHYSICAL ACTIVITY: *After One Year* 12. Based on the physical activity questionnaire, the intervention with parent group increased their total physical activity by 9.0 min day-1 (95% CI: 2.9, 15.2; p=0.004) more than did the control group. 13. Based on the physical activity questionnaire, school related PA increased significantly in the two intervention groups (+6.4 min/day, d=0.40 with parent support group; +4.5 min/day, d=0.29 without parent support group) compared to controls (no change), p<0.05 for both. *(continued next page)*	Not Reported

(Continued from previous study)						
					14. Based on the physical activity questionnaire, girls leisure time active transportation remained stable in the no parent intervention group, while it decreased on average 4 minutes daily in the control group (F=12.1, p<0.001, d=0.28). In boys, there were no significant differences. 15. Based on the physical activity questionnaire, significant differences were also found between the intervention with parent group and the control group on changes in active transportation to/from school (2.1 min day-1, 95% CI: 0.6, 3.6; p=0.006) and changes in school-related sporting activities (2.1 min day-1, 95% CI: 0.5, 3.7; p=0.012). No significant differences were found between the control group and intervention with no parent group. 16. Based on accelerometry data, MVPA increased an average of 4 min. daily in the intervention with parent group, and decreased 7 min. daily in the control group (F=5.1, p≤ 0.05; d=0.46). 17. Based on accelerometer data, PA of light intensity decreased an average of 21 min daily in the intervention with parent group and decreased by 57 min on average daily in the control group (F=5.1, p≤ 0.05; d=0.54). *After Two Years* 18. In boys, school-related physical activity increased significantly more in the intervention groups (from 18.3 ± 18.7 to 25.2 ± 21.4) compared with the control group (from 22.6 ± 14.8 to 23.8 ± 16.5), F=3.4, p<0.05. 19. For boys, accelerometer data revealed a trend for significant lower decreases in physical activity of light intensity in the intervention groups (-6 min/day) compared with the control group (-39 min/day), F=8.6, p<0.001. 20. Based on accelerometer data for boys, MVPA remained stable in the intervention group, but significantly decreased (-18 min/day) in the control group (F=3.5, p<0.08). 21. In girls, time spent in physical activity of light intensity decreased significantly less in the intervention groups (-2 min/day) compared with the control group (-20 min/day), F=4.6, p<0.05. (Note: Results identical for each strategy. Impossible to disentangle which contributed to each result.)	

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
Author Pearson, Russell (2005) United Kingdom	**Participation/ Potential Exposure** Not Applicable **High-Risk Population** Not Applicable Only cross-sectional data provided Adults (evaluation sample)	**Representative** Not Applicable **Potential Population Reach** Not Applicable **Potential High Risk Popluation Reach** Not Applicable	**Intervention Components** Not Applicable Only cross-sectional data provided. Fruit and vegetable (F&V) pricing MULTI-COMPONENT: 1. Distance from residence to nearest supermarket **Feasibility** Not Applicable **Implementation Complexity** Not Applicable	**Population Impact** Not Applicable **High-risk Population Impact** Not Applicable **Sustainability** Not Applicable	**Neighborhood Availability of Food Stores** NUTRITION: 1. Distance to nearest supermarket was not significantly associated with either fruit or vegetable consumption.	1. Deprivation, supermarket fruit and vegetable price, distance to nearest supermarket and potential difficulties with grocery shopping were not significantly associated with either fruit or vegetable consumption. 2. Male grocery shoppers ate less fruit, approximately one third of a portion per day, than female grocery shoppers (β=-0.30; 95% CI: -0.57, -0.02; p=0.04). 3. Consumption of vegetables increased slightly with age, by one-tenth of a serving per day per 15 year age increment (β=0.12; 95% CI: 0.00, 0.23; p=0.05). 4. There was a similar trend of an increase in fruit consumption with age, but the effect was not statistically significant (β=0.13 servings/day/15 year age increment; 95% CI: -0.01, 0.27; p=0.07).