

# Meta-Analysis of Nutrition Interventions Using the Mass Media

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**THE PROBLEM :** *It is unknown how effective nutrition interventions using mass media are at changing health behaviors*

- **Important to know the effectiveness of nutrition interventions**
  - Nutrition behaviors prevent many diseases (heart disease, cancer, diabetes, osteoporosis, etc.)
  - Systematic reviews on fruit and vegetable consumption & fat intake interventions (Ammerman, 2001; Pomerleau, et al., 2005); other outcomes?
  - In-school nutritional campaigns for fourth and fifth graders found an average effect of  $r = .12$  (McArthur).
  - Campaigns & interventions using media, if they work, can be a cost-effective way to reach a large numbers of people
- **Need to look separately at different behaviors because average media campaign effects vary by behavior/goals, from .15 for seatbelt use to .01 for anti-drug use campaigns (Snyder et al., 2002).**

## ADVANTAGES OF META-ANALYSIS

- **Meta-analysis can assess overall effectiveness of campaigns & interventions**
- **Point towards strengths & weakness in past interventions & evaluations**
- **Can help future campaigns & interventions set appropriate goals**
- **Useful when designing evaluations (Snyder, 2001).**

## METHOD

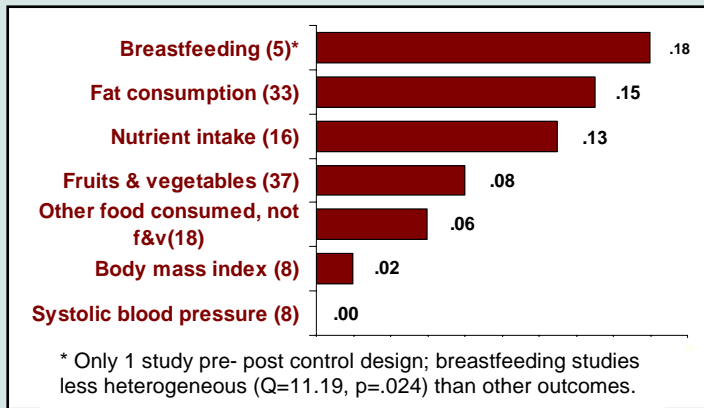
- **Criteria for inclusion**
  - Reported behavioral or physiological outcomes related to nutrition.
  - Published in a journal or edited book
  - The campaigns or interventions must have a media component.
  - Reporting appropriate statistics
- **Search procedures**
  - Databases searched: PubMed, Academic Search Premier, Agricola, CINAHL, PsycARTICLES and PsycNet
  - Terms used: 'Fruit', 'vegetable', 'nutrition', 'diet', 'obesity', 'eating behavior' 'food' 'Television', 'mass media', 'radio', 'computer', 'newspaper', 'internet', 'festival' 'Health', 'campaign', 'promotion', 'marketing', 'education', 'communication', 'marketing'
  - Examined studies cited in literature reviews & systematic reviews for inclusion
- **Coding:** Of several thousand articles screened, 71 campaigns coded. 2 coders: Intercoder reliability = .94.
- **Campaign effect size** Calculated using D-Stat (Johnson, 1995). Converted to correlational coefficient
- **Analysis: in SPSS & DStat2 (beta version). Analyzed studies with pre- post & control design k=59.**

## DESCRIPTION OF INTERVENTIONS IN THE ANALYSIS

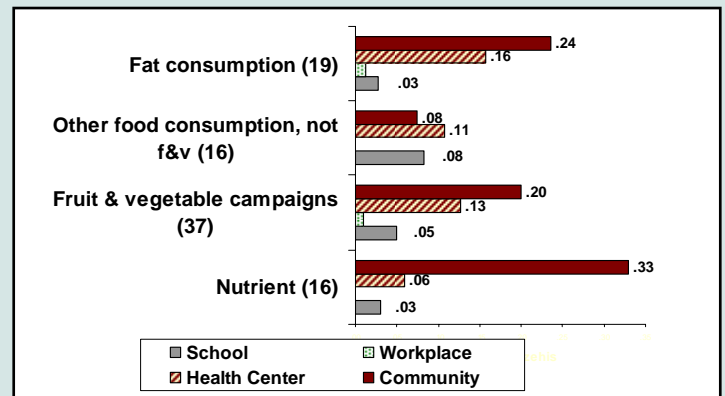
- **Years published: 1976-2005**
- **Length of intervention: mean=14 months**
- **Average # of channels used: 4**
- **Used theory: 62%**
- **If used theory, average # used: 1.5**

# RESULTS

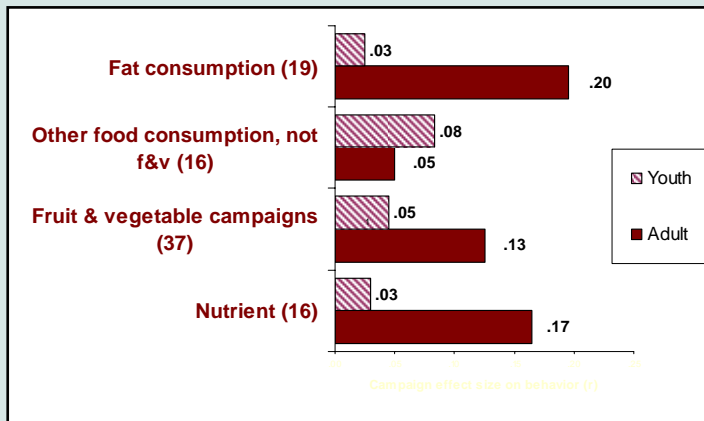
## Average Nutritional Campaign Effects



## Worksites & Schools are Less Effective Settings for Interventions



## Campaigns Aimed at Youth are Less Effective



## Effects are greater when:

- Shorter campaigns (f&v, fat, nutrients, not f&v)
- More theories (nutrients)
- More channels (nutrients)
- More recent campaigns (fat)
- Used social learning/cognition theory and not stages of change theory.

# CONCLUSIONS

- Nutrition interventions on average have small positive effect on behavior, similar to effect sizes found in media campaigns on other health topics (Snyder, 2001).
- Given the wide reach of some nutritional campaigns, effect sizes of this magnitude can represent an important impact for many people.
- Thus, nutritional campaigns using the media contribute positively to advancing public health.

# RECOMMENDATIONS

- Stick to shorter interventions (around a year)
- Consider setting your nutrition intervention in the community or health center rather than worksites.
- We need to find better ways to have an impact on youth.