

*Fruits and Vegetables  
Aren't Nutritious  
Until Somebody Eats Them*

Susan Nitzke, R.D., Ph.D., Professor  
Suzanne Shoff, Ph.D., Assistant Scientist

Department of Nutritional Sciences  
[www.nutrisci.wisc.edu](http://www.nutrisci.wisc.edu)

# Today's Outline

- *Project WebHealth* study (Suzanne)
- Some key nutrition tips (Susan)
- *F&V Connections* mail/phone intervention (Susan)
- *F&V Express Bites* Internet project (Susan)
- Q/A (Suzanne and Susan)

# Project WebHealth



## Welcome to Project WebHealth!

- 8-state, web-based study in college students
- Objective is to determine whether an online nutrition/fitness course prevents weight gain and improves diet & fitness.
- Focus Groups conducted last year and this Fall
- Pilot study started this Spring, ends in May
- Main study starts next Fall (2007)

**How do we find out what people are thinking  
in terms of food-related issues?**

**We ask them!**

### **Focus Groups:**

- informal gathering of 8-10 people
- questions posed to the group about a specific topic
- several focus groups conducted to get enough responses
- 'themes' identified from analysis of responses

# Focus Group Q: *What do you like about eating?*

## **1. Taste**

## **2. Comfort associated with certain foods, way to relieve stress.**

“If I’ve had a bad day, the easiest way to feel better is to eat something fattening.”

## **3. Health benefits, satisfies hunger, provides energy.**

“I find you feel better when you are eating right.”

## **4. Social aspects**

“Food is great...it brings people together.”

# Next Question

**What, if anything, stresses you about food?**

# What, if anything, stresses you about food?

## 1. Monitoring consumption (females).

“I wish I didn’t have to worry so much about calories, I watch what I eat – and I really feel like I should be much slimmer than I am, because I work out so much, and really watch what I eat ALL the time.”

“ The nutritional value about everything I eat stresses me out.”

## 2. Cost, especially of healthy foods.

## 3. Negative things about tasty food.

“I feel like everything that tastes good has a ridiculous amount of calories.”

“What tastes good is usually horrible for you.”

“Finding food that is healthy, filling and tasty is hard.”

# Last Question

**What do you wish you had known  
about eating on your own  
when you started college?**

# What do you wish you had known about eating on your own when you started college?

## 1. Availability of foods on campus.

- Too much fast food.
- Lack of healthy foods, especially in dining halls.
- Freedom and temptation to eat too much because of the abundance of 'unhealthy' foods at the dining halls.  
["I wish they didn't have bad choices at all in the dining hall"].

## 2. Dining hall schedule.

- Eating when not hungry to 'store up' before the dining hall closed.  
["Eating according to dining hall schedule is hard."]

# What do you wish you had known about eating on your own when you started college?

## 3. Lack of access to grocery stores.

## 4. Nutrition

Desire to know more about nutrition and how to eat better.

## 5. Controlling eating

“Dining halls make it so easy to eat seconds and thirds because there is so much food available.”

“It’s hard to stay away from desserts. I wish they wouldn’t have them in the cafeterias.”

# What do you wish you had known about eating on your own when you started college?

## 6. Cost

“It’s expensive to eat healthy. Eating junk food is so much cheaper.”

## 7. Time to cook

“How much effort cooking food is...meatloaf darn well doesn’t make itself.”

## 8. Already knowledgeable about eating

Some students felt they knew a lot before starting college, that they had learned about healthy eating from their parents.

# Project WebHealth



## Welcome to Project WebHealth!

- Main study starting next Fall (2007)
- Freshman, sophomores and juniors are invited!
- Objective is to determine whether an online nutrition/fitness course prevents weight gain and improves diet & fitness.
- If interested, visit Nutritional Sciences website at the end of the summer or during first week of classes next Fall.

[www.nutrisci.wisc.edu](http://www.nutrisci.wisc.edu)

*F&V Connection*  
and  
*F&V Express Bites*



What's on your plate these days?



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# Teens Need Calcium.

## So pour it on!

TEENS NEED CALCIUM. SO POUR IT ON!

THE U.S. DEPARTMENT OF AGRICULTURE AND THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES RECOMMEND THAT TEENS GET 1,300 MGS OF CALCIUM PER DAY. MILK IS THE BEST SOURCE OF CALCIUM. MILK IS THE ONLY FOOD SOURCE THAT PROVIDES ALL THE CALCIUM AND VITAMIN D YOUR BODY NEEDS TO BUILD STRONG BONES AND TEETH. MILK IS THE ONLY FOOD SOURCE THAT PROVIDES ALL THE CALCIUM AND VITAMIN D YOUR BODY NEEDS TO BUILD STRONG BONES AND TEETH.

U.S. DEPARTMENT OF AGRICULTURE  
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

## CSPI NEWSROOM

CENTER FOR SCIENCE IN THE PUBLIC INTEREST

### FDA Urged to Stop Claims for "Energy" Drinks

CSPI Opposes Industry Plan for Weak Regulation of "Functional" Foods

For Immediate Release:  
December 5, 2006

Related Links:  
CSPI Testimony to FDA on Functional Foods, Dec. 2006

More CSPI Testimony to FDA on Functional Foods, Dec. 2006

CSPI Report on Functional Foods

2002 CSPI Petition to FDA

FDA Urged to Halt Sale of "Functional Foods" Containing Illegal Ingredients

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WASHINGTON—The Food and Drug Administration (FDA) should enforce stricter standards for "energy" drinks and other so-called functional foods, according to the nonprofit Center for Science in the Public Interest (CSPI). Today CSPI testified at a hearing on the controversial foods convened by the FDA. The hearing was spurred in part by a CSPI petition in 2002 urging the FDA to tighten regulations and take enforcement action.

"Many so-called 'functional foods,' would be more aptly named dysfunctional foods," said CSPI legal affairs director Bruce Silverglade. "Many 'energy' drinks, for example, primarily consist of water, sugar and caffeine. But the food industry is pressuring the Bush Administration to extend already weak standards for dietary supplement ingredients and label claims to these newfangled products. That approach would make functional foods, a potentially useful idea, about as dependable as 19th century snake oil."

CSPI testified that some drinkers mistakenly rely on "energy" drinks to mitigate the effects of alcoholic beverage consumption. Drinkers may experience a placebo effect, and dangerously assume that they can drive a car, or drink even more alcohol without becoming further inebriated. CSPI also told the FDA that medicinal herbs not being in foods like iced tea and that snacks with unhealthy amounts of saturated fat are inappropriate mediums for ingredients that purportedly reduce the risk of heart disease.

"To ensure safety and effectiveness, companies should be required to notify the FDA before adding novel ingredients to foods for purported health benefits," said CSPI senior staff attorney Ilene Ringel Haller, who also testified at the FDA hearing.

In 2000, the U.S. Government Accountability Office (GAO) strongly criticized the FDA's failure to protect consumers from unsafe ingredients

# What's in your cup/glass/can/bottle/mug??

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### Energy drink banned at Colorado school

POSTED: 5:28 a.m. EST, February 24, 2007

**STORY HIGHLIGHTS**

- Spike Shooter energy drink banned at a Colorado Springs, Colorado, high school
- About a half-dozen students report shortness of breath, heart palpitations, nausea
- Drink Web site says an 8.4-ounce can has 300 milligrams of caffeine

Adjust font size:

**COLORADO SPRINGS, Colorado (AP)** – A high school banned a caffeine-packed energy drink after students complained that it made them sick and shaky and caused their hearts to race.

Some convenience stores near Doherty High also stopped selling the Spike Shooter drink, district spokeswoman Elaine Naleski said Friday.

About a half-dozen students reported symptoms including shortness of breath, heart palpitations and nausea, school officials said. [\(Watch how the school reacted to students' symptoms\)](#)

One student was taken by ambulance to a hospital last week and another was "so shaky and messed up" that she was brought to the school office in a wheelchair, Principal Jill Martin said. The effects were temporary and the students recovered, Naleski said.

Tim Patterson, chief executive of Colorado Springs-based Biotest Laboratories, which produces Spike Shooter, said the drink isn't meant for anyone under 18.

"I don't want these kids consuming the product," Patterson said. "That's not my target market"

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estimates, exceed \$25 billion per year.

"When the FDA has warned companies, such as the makers of Mars candy and Arizona Iced Tea, that they were violating the law, the firms have continued to produce and sell their products."

## *Did you know?*

Sweetened beverages (non-diet sodas) are top contributors of added sugars in the American diet (33%)

# Two factors to consider

- High energy density
- Large portion sizes



# Before we leave this topic...

- Turn to the person(s) next to you and decide one thing you could do to make better food/beverage choices for the next week.
- 2-3 minutes

■ *30 seconds left*

# Was Eating More Fruits and Vegetables on Your List?

- **TIPS:**
- Fresh is great, but not the only good choice, especially this time of year
- Expensive (e.g. pomegranate) is not always better



# Was Eating More Fruits and Vegetables On Your List?

- Fresh is great, but not the only good choice, especially this time of year
- Expensive (e.g. pomegranate) is not always better
- 5 cups a day is better than 4
- 4 cups a day is better than 3
- 3 cups a day is better than 2
- 2 cups a day is better than 1 and...

# Was Eating More Fruits and Vegetables On Your List?

- Fresh is great, but not the only good choice.
- 5 cups a day is better than 4
- 4 cups a day is better than 3
- 3 cups a day is better than 2
- 2 cups a day are better than 1
- 1 cup a day is **WAY BETTER** than none!

# *F&V Connection and F&V Express* *Bites* Materials and Methods Were Based on the Transtheoretical Model

- Stages of change
  - Contemplation
  - Preparation
  - Action
  - Maintenance
  - Precontemplation
- Self efficacy
- Decisional balance
- Processes of change

**Focus Group Findings from F&V  
Connections Research  
(reported by respondents in five  
stages of change)**

# PRECONTEMPLATION



- *This week I don't even have time to shave – you expect me to eat fruits and vegetables?*
- *I have eaten the same stuff all my life, why should I change?*

# CONTEMPLATION



- *I probably should start eating fruits and vegetables so my kids will. They copy their parents.*
- *I used to eat vegetables and fruits, but not all the time. I think I should eat more every day.*

# PREPARATION



- *I've always known I need to eat better anyway. I just need some tips and a place to start.*
- *It's easy if you just put your mind to it. I'm going to try to set a goal for myself to eat more fruits and vegetables.*

# ACTION

**MAINTENANCE  
6 MONTHS  
AHEAD**

- *When I'm putting stuff together on a plate, I say, OK, I have to get all the food groups so I better grab a veggie.*
- *I like to set a good example for my daughter.*

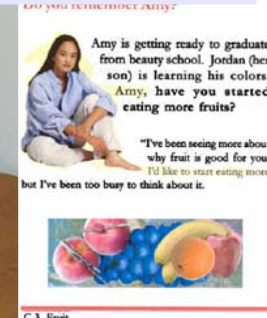
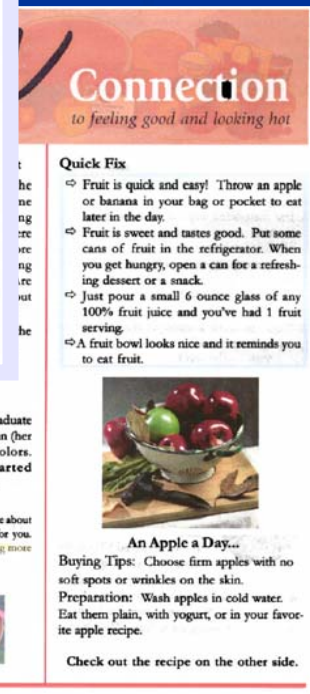
# MAINTENANCE



- *I've been a fruit and vegetable person all my life. My mom got me into it.*
- *I like fruits and vegetables, but I guess I also want to eat them because it makes me feel better knowing I'm eating something healthy.*

# F&V Connection Study

- Aim: increase f&v intake among low income 18-24 year olds (n=1200+)
- Intervention:
  - Stage-based magazine
  - 4X2 Monthly newsletters
  - 2 Individualized reports
  - 2 Educational phone calls



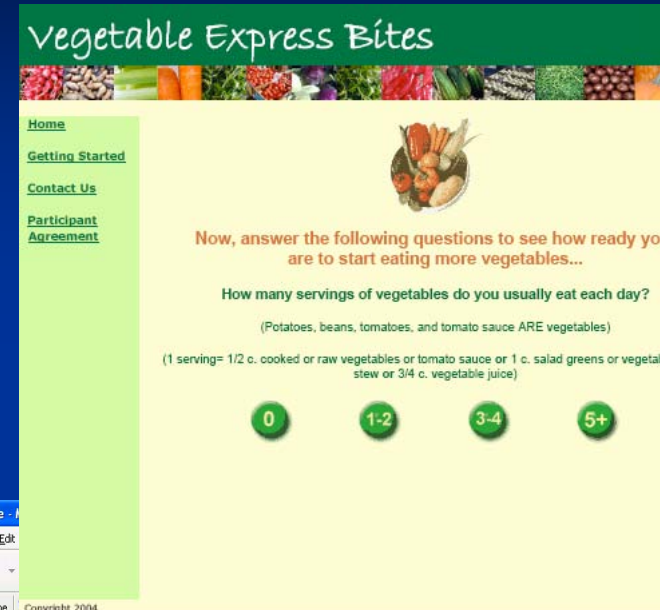
## ***F&V Connection* study results:**

- Stage-tailored materials were successful mediators of dietary behavior change and resulted in significant progress in SOC among the treatment as compared to the control subjects.
- Treatment subjects ate about 2.4 more servings of fruits and vegetables (mostly fruit) per week than controls, 6 months after the end of the 6-month intervention.



# F&V Express Bites Website

- Adapted from the print-based materials.
- Goal: create a user-personalized, stage-tailored learning experience.
- Evaluated (n=13) and pilot-tested (n=7).
- Home page → Start with F or V
- A 2-step algorithm identifies readiness to meet recommendations for fruits and vegetables.
- Computer selects messages based on readiness.





# Research Methods

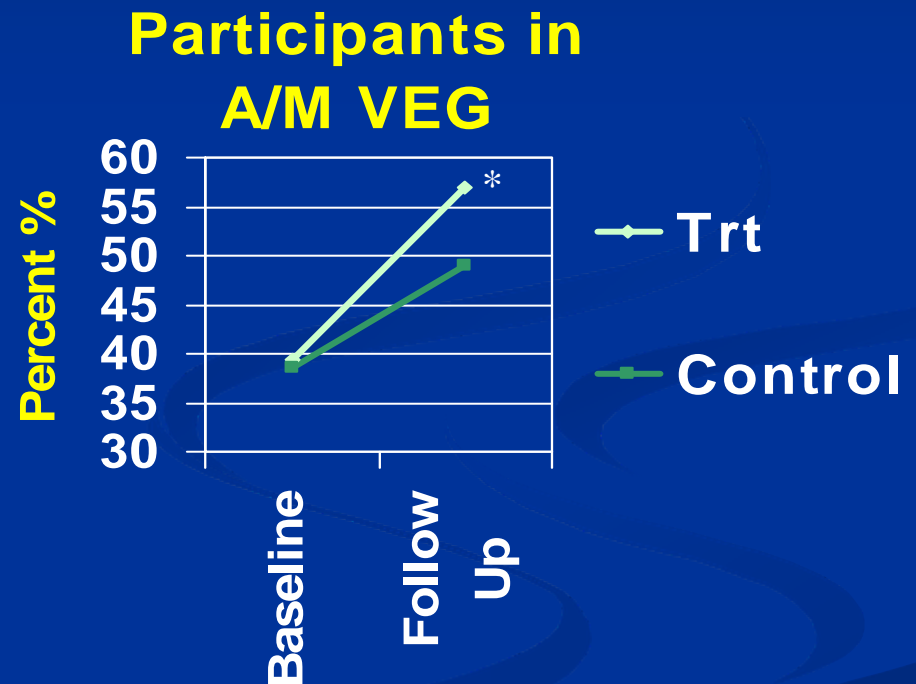
- **Design: Randomized, Treatment-control with Pre- and post-test assessments of TTM constructs.**
- **Multi-state: participants from WI, NE, ME, SD.**
- **Control = Non-tailored website with general nutrition messages adapted from a *5 A Day* pamphlet.**

# Assessments

- Baseline
- Post-test
- Follow up: 30-60 days post viewing
- Final N = 96 (half controls)

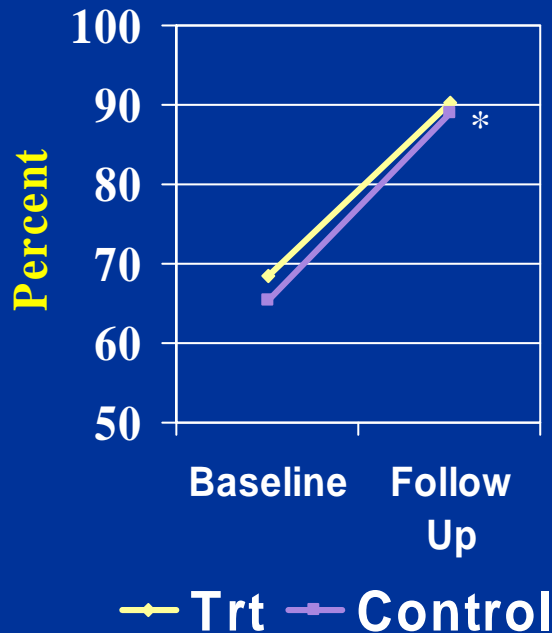
# Differences at Follow Up

- No differences at baseline for F or V
- The treatment group made significant progress in SOC for vegetable intake (McNemar  $\chi^2 = 0.039$ )
- Control group increases were not significant ( $\chi^2 = 0.267$ ).



# Differences at Follow Up

## Participants in A/M Fruit



- Similar progress to higher stages of change was observed for treatment and control groups for fruit.

# Differences at Follow Up

**Advances in self-efficacy were sustained 30-60 days later for vegetables (treatment and controls) but not fruit.**

# Differences at Follow Up

## Decisional Balance:

- **F&V *Pro* scores increased from baseline to post-test for both groups**
- **Increases were not sustained 30-60 days later.**
- **Veg *Con* scores were significantly lower than baseline scores for the treatment, but not control group.**
- **Fruit *Con* scores were significantly lower for both groups.**

# Qualitative Evaluation

- 83% of intervention group respondents would recommend the site to others.
- 82% intend to try the tips/techniques discussed in the modules.
- 69% reported increased motivation to eat more fruit and 76% to eat more vegetables.
- 87% either agreed or strongly agreed with the statement, “I have improved my attitude about fruit and vegetable consumption.”
- 83% rated the website content as new to them.

# Study Strengths

- 1. Intervention materials were theory-based.**
- 2. Content and approach adapted from a successful large-scale study.**
- 3. Assessment scales had been tested for reliability and validated for use with young adults.**
- 4. Website evaluated and pilot tested.**
- 5. Low attrition.**
- 6. Web format provides additional strengths.**

# Study Limitations

1. **Self-selected study population.**
2. **All measures self-reported.**
3. **Follow up measures assessed only short-term changes (1-2 mo.)**

# Discussion/Conclusions

- **An interactive, stage-tailored program can produce significantly positive shifts in dietary stages of change.**
- **Stage-tailored information can have significant impacts, particularly for those in the pre-action stages.**

# Discussion/Conclusions

- **Receiving web-based nutrition information that is either stage or non-stage tailored can significantly affect the psychosocial mediators of behavior change.**
- **A web-based program is an acceptable format for nutrition education for the young adult audience.**

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Experiment Station



# Fruit & Vegetable Express Bites



[Getting Started](#)

[Contact Us](#)

## Welcome to the F&V Express Bites Web Site!



Eating the right foods is one of the most important things we can do for our bodies. This web site is designed specifically for young adults who may want to change their eating habits. The eating habit we are going to focus on is eating at least **5 cups** of fruits and vegetables each day for women and **6 cups** for men, assuming a moderate level of activity.

You don't have to be ready to make a change to enjoy this web site. Take a look, you may find that changing your eating habits is faster and easier than you thought.

Go ahead and click on the [Getting Started](#) link.

**Web site: [www.nutrisci.wisc.edu/fav](http://www.nutrisci.wisc.edu/fav)**

