

*Using Prochaska's Transtheoretical Model as a Framework to Evaluate the Impact of an Entertainment-Education Intervention on Healthy Eating and Active Living Behaviors*

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# *Overview of presentation*

- ❖ *“Encrucijada, Sin Salud No Hay Nada”* (Crossroads, There Is Nothing Without Health) – background 2009, 2010 & 2012
- ❖ *Encrucijada* evaluation
- ❖ Prochaska’s Transtheoretical Model as a framework for evaluation
- ❖ Attitudes, motivations, intentions & behaviors – survey results
- ❖ Challenges
- ❖ Lessons learned

# *Encrucijada: A collaborative effort*

- ❖ Funded by the Colorado Health Foundation
- ❖ Evolve Communications
- ❖ Entravision Communications Colorado
- ❖ Colorado Department of Health Care Policy and Financing
- ❖ Colorado Foundation for Public Health and Environment
- ❖ La Neta Tierra (currently *ideas Que Funcionan*)

# *Encrucijada in 2009 & 2010*

The Colorado Health Foundation funded the creation of *Encrucijada*, a twelve 30-minute episodes TV miniseries (a soap opera) developed to:

- Promote enrollment in Colorado's public health insurance programs (CHP+ and Medicaid)
- Educate Colorado's Spanish-speaking community on health topics, disease management, and healthy living

## *Encrucijada in 2009 & 2010 (cont.)*

- Aired in 2009 with very high audience numbers and ratings
- Evaluation findings shown that it was very successful in producing change in knowledge, attitudes, and behaviors
- Funded for a rebroadcast in 2010 with very good ratings

## *Encrucijada 2 - background*

- The Colorado Health Foundation provided funding for a second *Encrucijada* series
- 24 new 30-minute episodes focused on healthy eating and active living
- Aired weekly on Sundays (5:00 & 10:00 PM) from February through July 2012

# *Encrucijada 2 – Expected outcomes*

Primary expected outcomes of *Encrucijada 2* audience:

- Increase physical activity
- Improve diet

Secondary outcomes:

- Increase knowledge and understanding of the connection between diet, physical activity, and disease prevention.

## *Encrucijada 2 – Complexity of outcomes*

- Healthy eating and active living behaviors are very complex and multidimensional indicators to be measured
- Influenced by cognitive, attitudinal, emotional, behavioral, environmental, cultural, and financial factors



# *Encrucijada 2 - Evaluation Questions*

1. What is the impact of *Encrucijada 2* on its viewers' knowledge, attitudes, intentions and behaviors related to active living?
2. What is the impact of *Encrucijada 2* on its viewers' knowledge, attitudes, intentions and behaviors related to healthy eating?
3. What are the environmental factors that facilitate or hinder physical activity and consumption of a healthy diet as experienced by *Encrucijada 2* viewers?

# *Encrucijada 2 – data collection*

- Nielsen viewer counts – weekly audience counts
- Panel sessions – five sessions: baseline (pre-intervention), three during intervention (every six weeks), and post-intervention
  - ✓ Qualitative: knowledge, attitudes, intentions, and behaviors
- Surveys – administered during panel sessions
  - ✓ Demographic information
  - ✓ Healthy eating and active living attitudes, intentions, motivations, and behaviors
- Photovoice – collected throughout duration of *Encrucijada*

# *Prochaska's Transtheoretical Model (stages of change)*

Five stages of change:

1. Pre-contemplation – No intention of change within the next 6 months
2. Contemplation – Thinking about changing within the next 6 months, conscious of arguments in favor and against change
3. Preparation – Intention to change within the next month, has tried changing in the past, has goals in mind
4. Action – recent changed in behavior, sufficiently and consistently
5. Maintenance – changed behavior 6 or more months ago, has developed strategies to avoid barriers and relapse

Relapse

# *Prochaska's Transtheoretical Model (stages of change)*

Factors that produce transition between stages (processes of change):

- ✓ Decisional balance – arguments in favor and against change, importance of factors in favor and against adopting new behavior

Important in early stages

- ✓ Self-efficacy – Confidence in the ability to change the behavior and suppressing the temptation of continuing problem behavior

Important in intermediate and advanced stages

# *Healthy eating – what's involved?*

- Prochaska model used primarily in tobacco cessation programs:
  - ✓ Tobacco - quit problem behavior
  - ✓ Fight environment – people smoking around you, peer pressure
- Healthy eating:
  - ✓ Knowledge: nutrition, what is healthy, what is unhealthy
  - ✓ Quit problem behaviors: big portions, unhealthy food, unhealthy habits (i.e., skipping meals, cravings)

# *Healthy eating – what's involved? (cont.)*

- ✓ Replace problematic with healthy behaviors: portions; reduced salt, fat, sugars
- ✓ Implement new behaviors: grocery shopping when not hungry
- ✓ Fight the environment: at the grocery store, TV ads
- ✓ Address peer pressure: family, social events
- ✓ Address cultural uses of food: comfort food, when depressed, when celebrating, as stress suppressor
- ✓ Access – financially, food deserts

# *Active living – what's involved?*

## ➤ Active living

- ✓ Knowledge: available activities, location, what is safe given health status
- ✓ Implement new behaviors: work out
- ✓ Address environmental issues: safety, weather
- ✓ Address peer pressure
- ✓ Address time issues: when to work out
- ✓ Address financial limitations

# *Healthy eating and active living – Motivation factors*

- Health – maintain, recover, prevention
- Concerns for health of family
- Weight control
- Feel better
- Look better
- Inspiration to others, primarily to children and family
- Personal strength (I can do it)



# *Evaluation – Survey developed*

- Items about behaviors:
  - ✓ Change behaviors or intention to change - identify stage of change
  - ✓ Self assessment of health status
  - ✓ Self assessment of health of diet (diet status)
  - ✓ Consumption of bad food/ingredients: fat, salt, sugar, junk food, sodas
  - ✓ Consumption of good/healthy food: fruits and vegetables
  - ✓ Self-efficacy

# *Evaluation – survey developed (cont.)*

- Items about motivation to have a healthy diet and an active life:
  - ✓ Own health
  - ✓ Family's health
  - ✓ Feel better
  - ✓ Look better, weight control
  - ✓ Inspiration to others
  - ✓ Personal strength

# *Evaluation – survey developed (cont.)*

- Items about recent changes in behavior:
  - ✓ Food consumed
  - ✓ Awareness of impact of food consumed on health
  - ✓ Decrease preparation and consumption of bad food & drinks
  - ✓ Increase consumption of good food & drinks
  - ✓ Attention to portion size
  - ✓ Increased exercise
  - ✓ Attention & control of environmental influences
  - ✓ Share goals with family about diet & exercise (support & accountability)

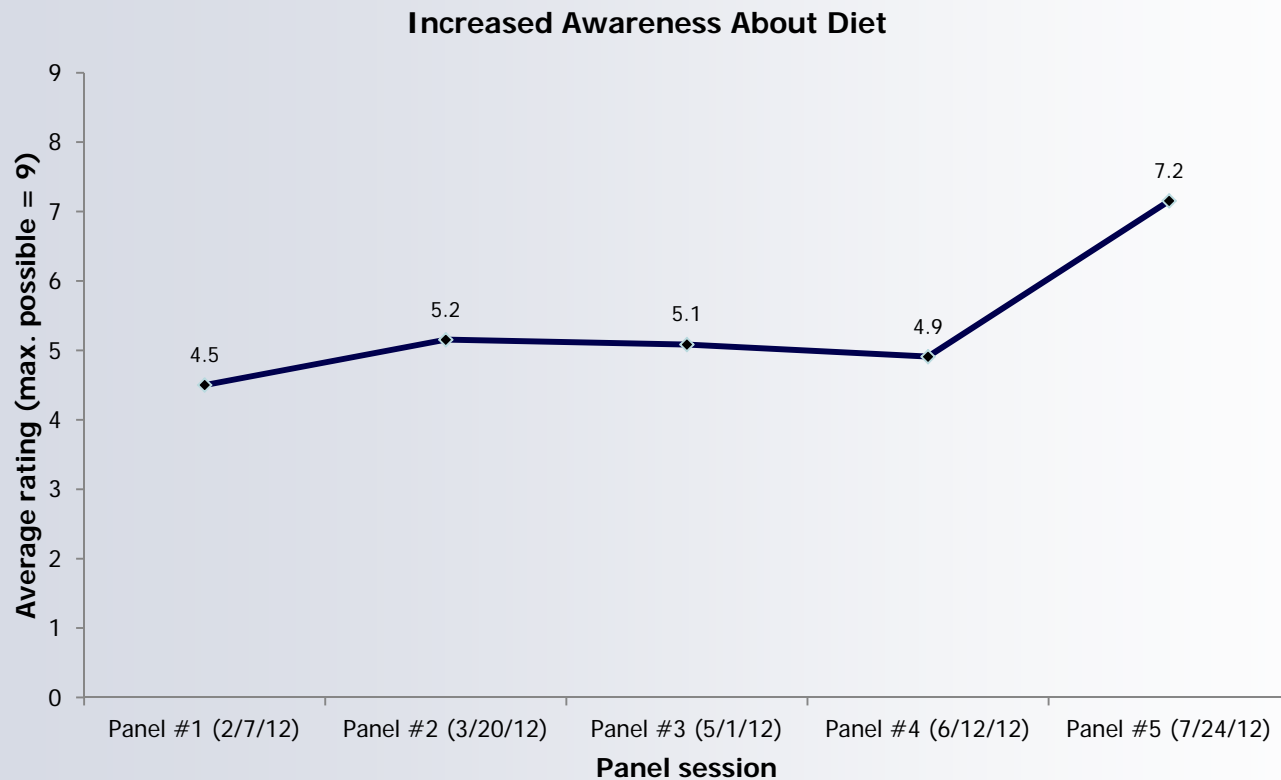
## *Evaluation (cont.)*

- 14 participants at baseline, 13 at post-intervention
- Survey had 48 items (in addition to demographics and other variables)
- 19 indicators with between one and six items each
- Pre-post comparison of baseline against post-intervention (ANOVAs estimated between these two data-points, during-intervention data not included in these analyses)

# *Evaluation results: Six indicators with statistically significant differences (five positive, one negative change)*

ANOVA (baseline vs. post intervention analysis)

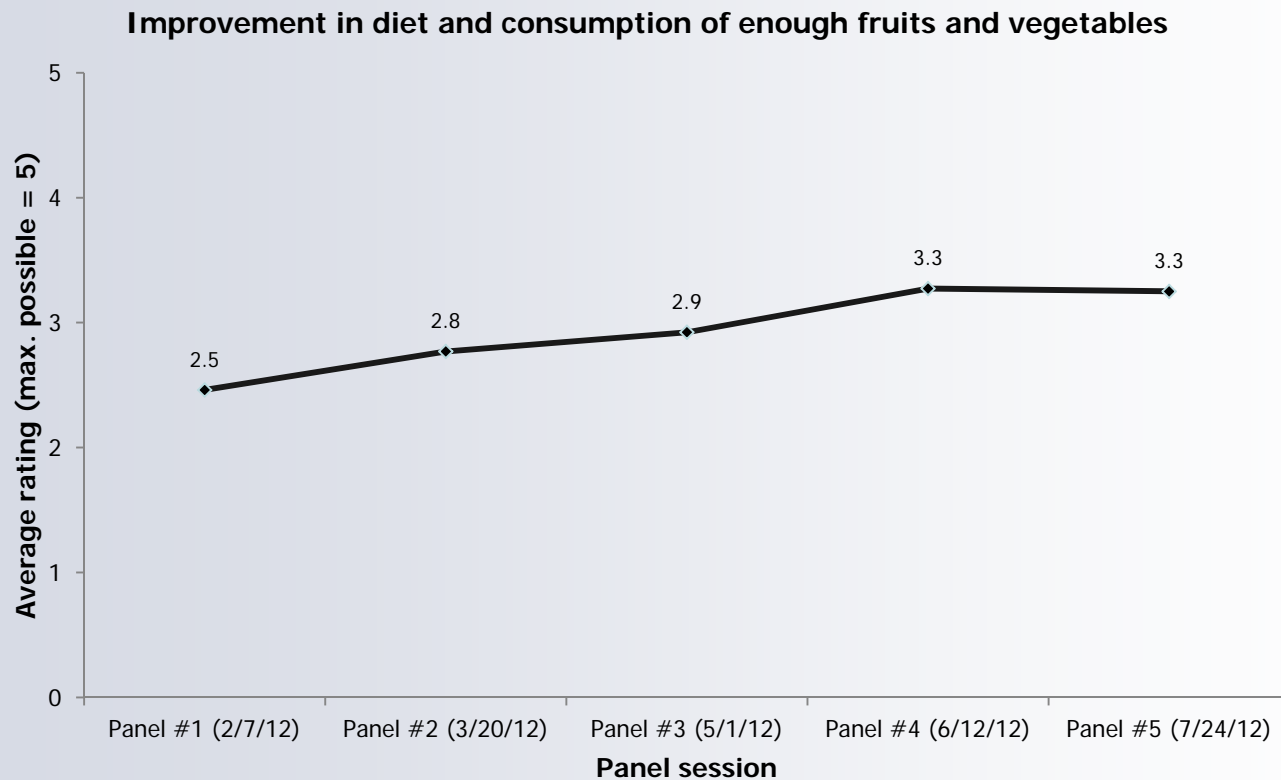
Increased awareness about diet [F(1,11)=30.609, p<.001]



# Evaluation results

ANOVA (baseline vs. post intervention analysis)

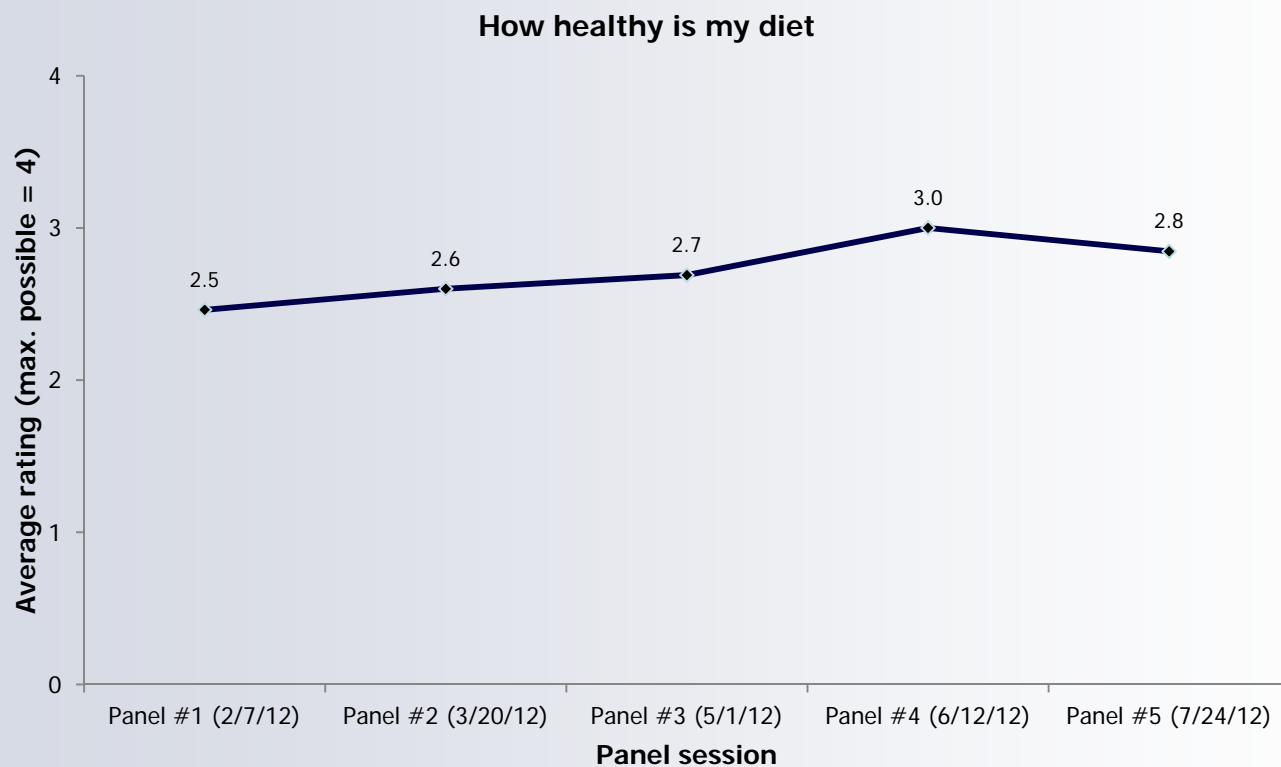
How is my diet + consumption of fruits and vegetables [F(1,11)=25, p<.001]



# Evaluation results

ANOVA (baseline vs. post intervention analysis)

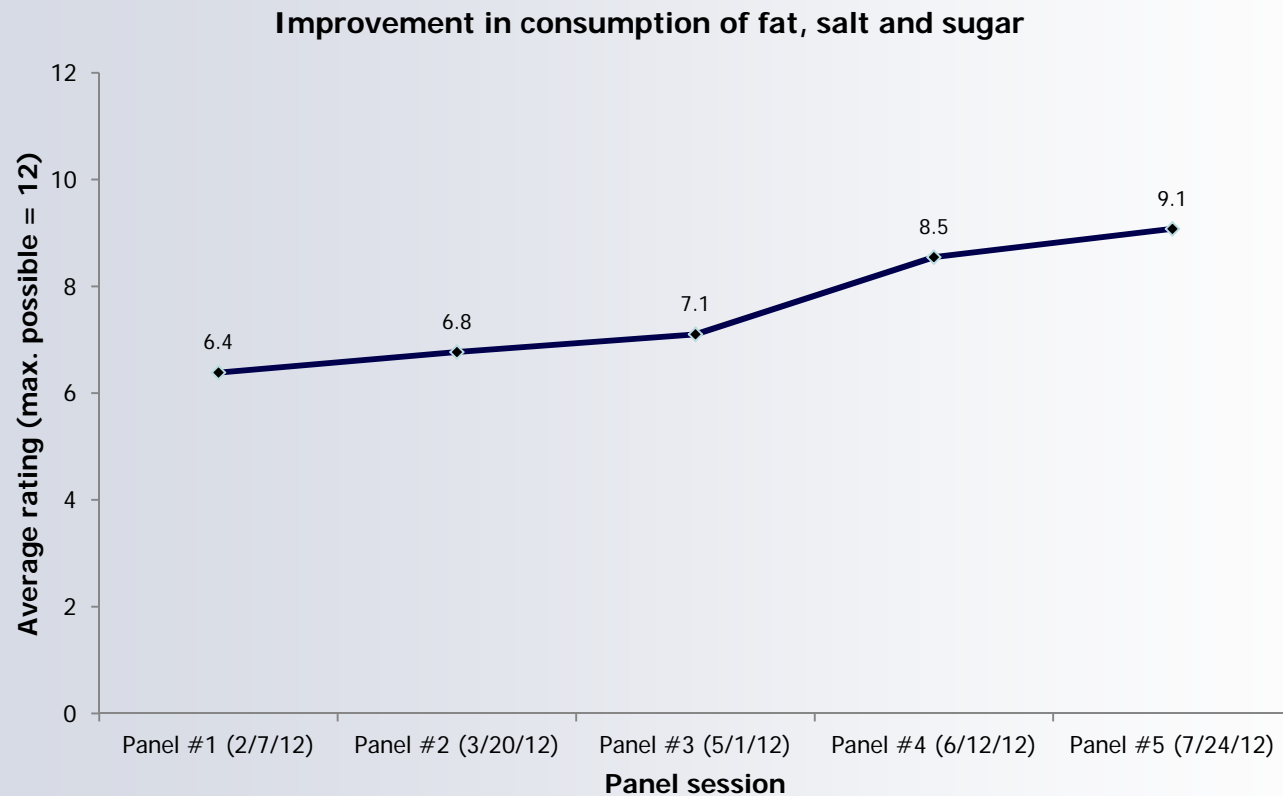
How healthy is my diet [F(1,12)=7.5, p<.05]



# Evaluation results

ANOVA (baseline vs. post intervention analysis)

Improvement in consumption of fat, salt & sugars [ $F(1,12)=16.443$ ,  $p<.005$ ]

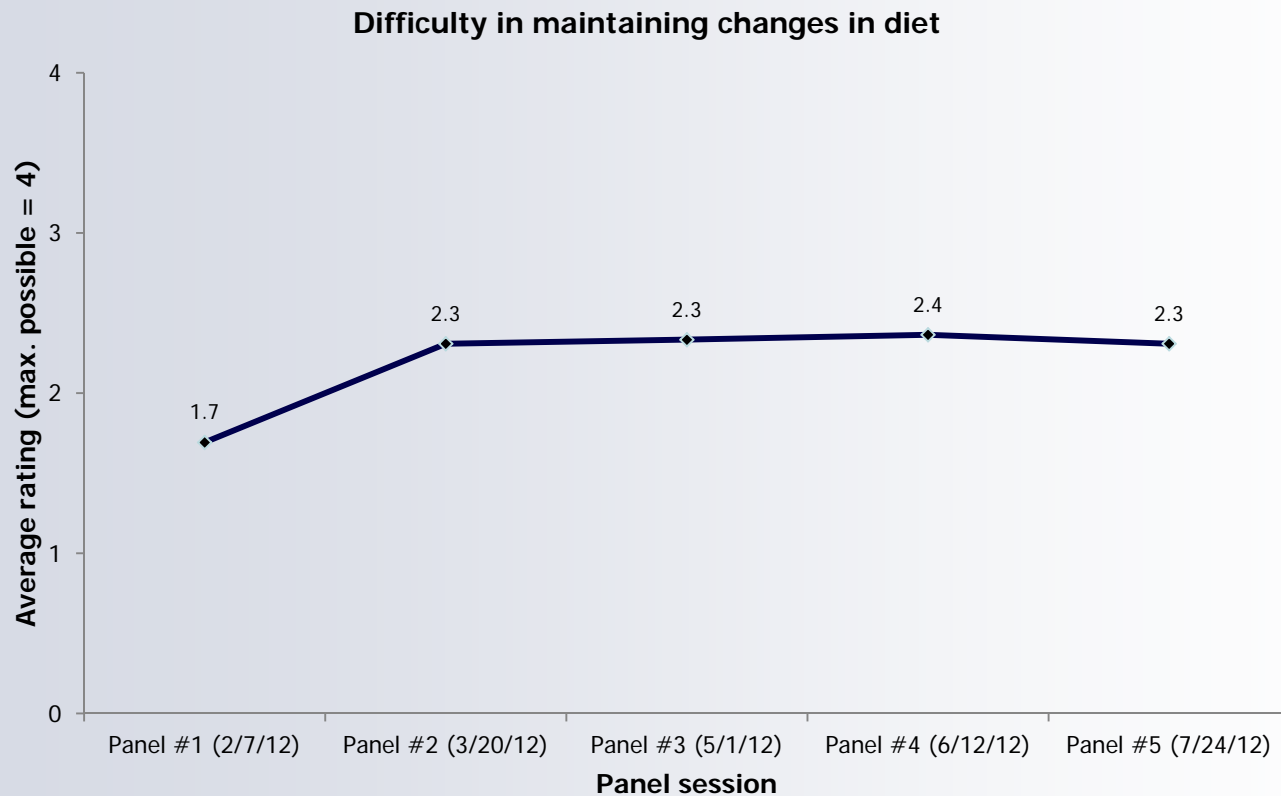




# Evaluation results

ANOVA (baseline vs. post intervention analysis)

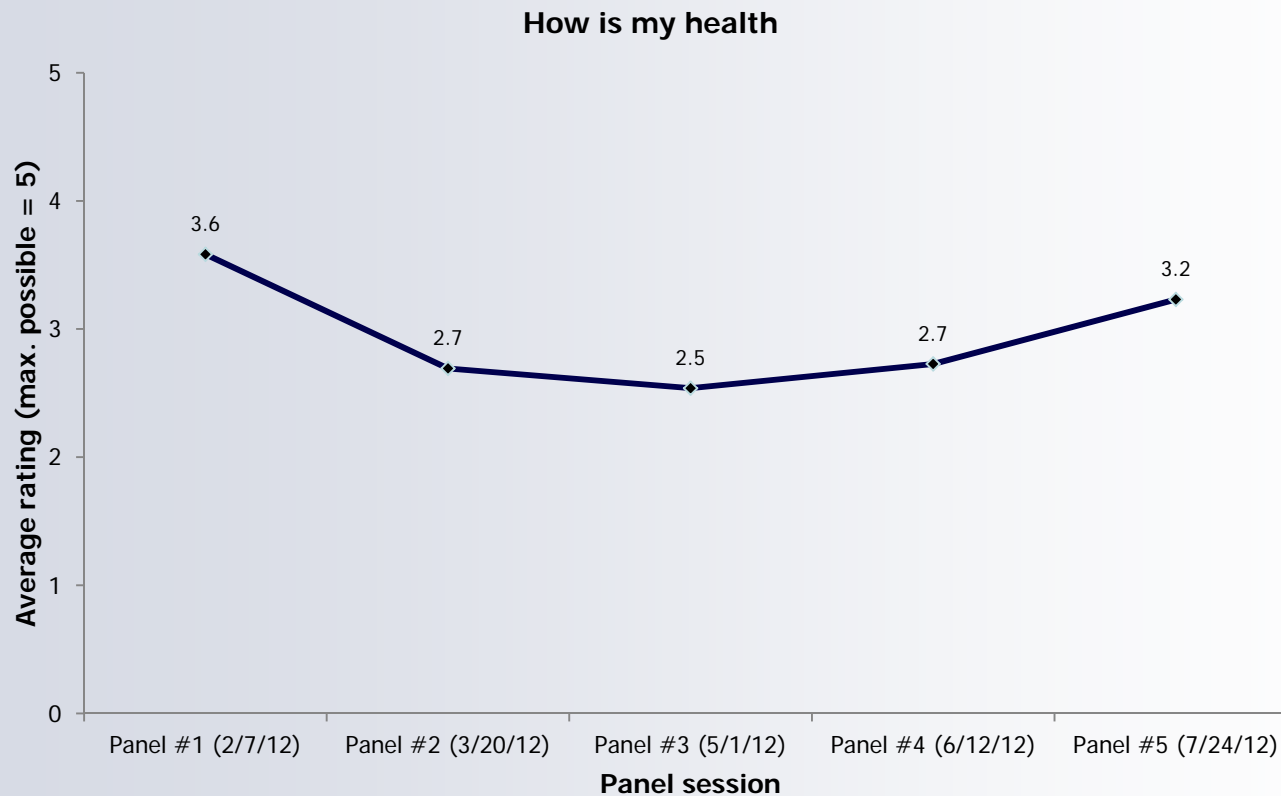
Difficulty in maintaining changes in diet [ $F(1,12)=11.636, p<.01$ ]



# Evaluation results

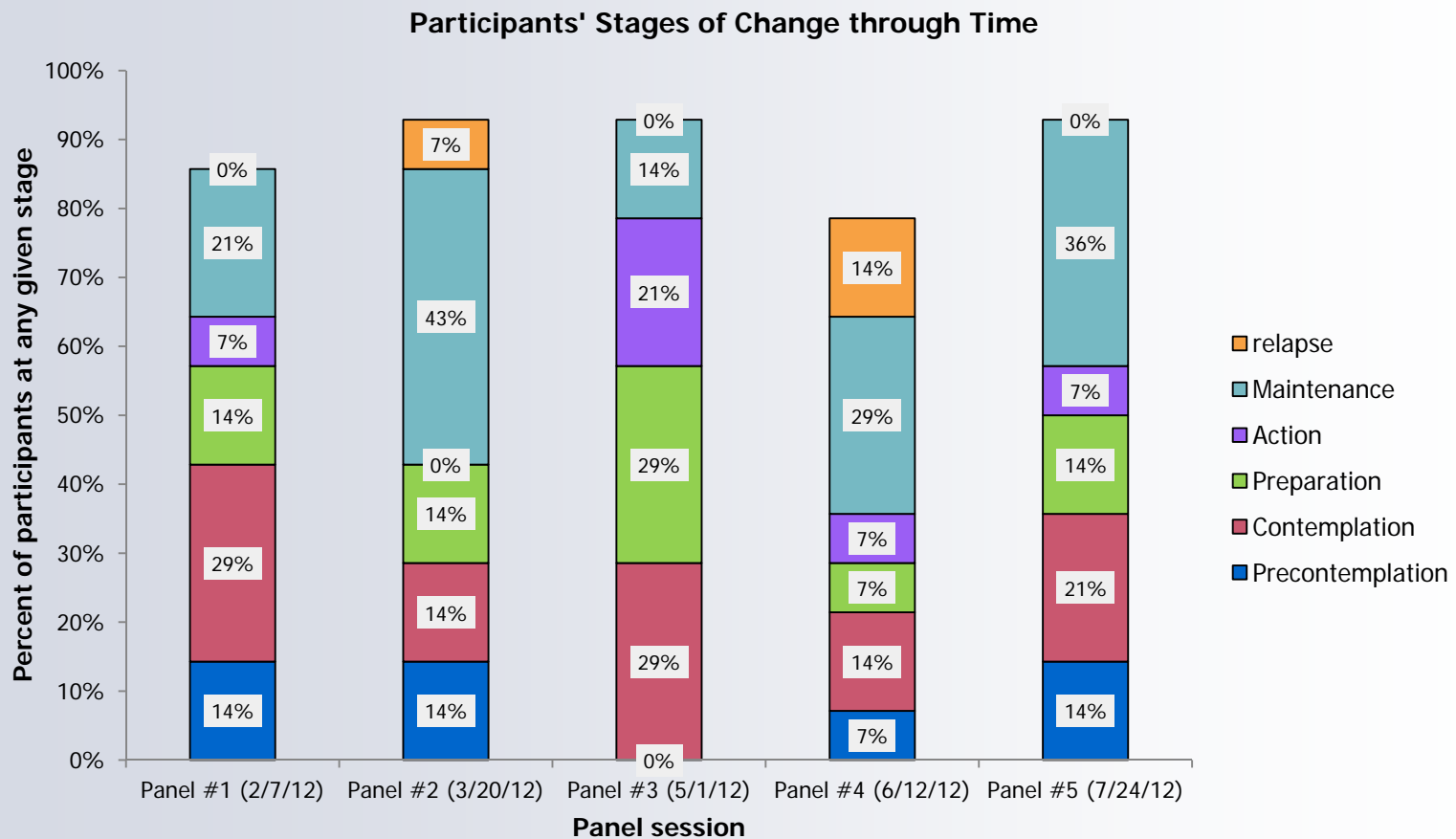
ANOVA (baseline vs. post intervention analysis)

How is my health (negative) [ $F(1,11)=6.600, p<.05$ ]



# Evaluation results

Stage of change: baseline vs. post-intervention ANOVA non-sig.



# *Challenges*

- Develop instruments that cover all the aspects of the stages and processes of change
- Cover aspects of both target outcomes
- Include enough items so each indicator is measured by more than one item
- Survey was too long, it took a long time to administer
- As with any other self-report, minimize likelihood of social desirable responses
- Literacy level of respondents

# *Lessons learned*

- Given the complexity of expected outcomes, this was a challenging intervention to evaluate
- A very 'fine comb' needs to be used to detect small changes in the measured indicators
- The Prochaska's model is a very useful framework to evaluate this type of interventions, however...
- The Prochaska model is in itself a complex framework to use
- Additional qualitative data collected will provide further understanding of the impact of this intervention

# *Contact information*

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