Tailoring on Novel Motivational Constructs: “Stop Pushing Me”

Ken Resnicow

Kudos to:
Rachel Davis
Abdul Shaikh
Jennifer Hawkins
Vic, Ed & the entire CECCCR Lab
Deconstructing Tailoring


Understanding tailoring in communicating about health

Robert P. Hawkins¹†*, Matthew Kreuter²†, Kenneth Resnicow³†, Martin Fishbein⁴ and Arie Dijkstra⁵

Abstract

‘Tailoring’ refers to any of a number of methods for creating communications individualized for their receivers, with the expectation that this individualization will lead to larger intended actions and identifying appropriate study designs for tailoring research.

Introduction
Health Communication “Segmentation” Continuum

High Audience Segmentation & Message Customization

Individually Tailored

Individual Assessment

Group Tailored

Population Tailored

Low Audience Segmentation & Message Customization

Level of Segmentation/Tailoring:
- Populations
- Population Sub-groups
- Individuals
Mechanisms

<table>
<thead>
<tr>
<th>Table 1. Primary goals of tailoring</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processing goals</strong></td>
</tr>
<tr>
<td>Attention</td>
</tr>
<tr>
<td>Effortful processing</td>
</tr>
<tr>
<td>Self-reference</td>
</tr>
<tr>
<td>Peripheral processing</td>
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<tr>
<td><strong>Impact goals</strong></td>
</tr>
<tr>
<td>Being informed</td>
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<td>Decision making</td>
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<tr>
<td>Behavioral intention</td>
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<tr>
<td>Skills</td>
</tr>
<tr>
<td>Self-efficacy</td>
</tr>
<tr>
<td>Attitudes/outcome expectancies</td>
</tr>
<tr>
<td>Normative perceptions</td>
</tr>
</tbody>
</table>
Three tailoring strategies to reach these goals

1. Personalization
2. Feedback
3. Content matching
Three tailoring strategies to reach these goals

1. Personalization
2. Feedback
3. Content matching
# Techniques: Personalization

<table>
<thead>
<tr>
<th>Tactic</th>
<th>Description</th>
<th>Example</th>
<th>Processing goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification</td>
<td>Identifies recipient by name or other unique identifiers</td>
<td>Tailored materials integrate name of recipient</td>
<td>Attention</td>
</tr>
<tr>
<td>Raising expectation</td>
<td>Makes overt claims of customization</td>
<td>‘The information in this magazine was made just for you.’</td>
<td>Attention, Effortful processing</td>
</tr>
<tr>
<td>Contextualization</td>
<td>Presents information in a meaningful context</td>
<td>‘The Lord has given us a powerful tool to detect breast cancer early when it can still be treated effectively. Getting a mammogram together with the power of prayer can help you live a long life in the service of God.’</td>
<td>Attention, Effortful processing, Self-referencing</td>
</tr>
</tbody>
</table>
Three tailoring strategies to reach these goals

1. Personalization
2. Feedback
3. Content matching
# Techniques: Feedback

<table>
<thead>
<tr>
<th>Type of feedback</th>
<th>Description</th>
<th>Example</th>
<th>Processing and outcome goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Descriptive</td>
<td>Reports what is known about the recipient based upon his or her data</td>
<td>‘You are currently eating three servings of fruits and vegetables per day.’</td>
<td>Effortful processing, Self-referencing</td>
</tr>
<tr>
<td>Comparative</td>
<td>Contrasts what is known about the recipient with what is known about others</td>
<td>‘Compared to other women from this health center, you eat fewer servings of fruits and vegetables per day.’</td>
<td>Effortful processing, Self-referencing, Normative beliefs, Attitudes</td>
</tr>
<tr>
<td>Evaluative</td>
<td>Makes interpretations or judgments based on what is known about the recipient</td>
<td>‘Your fruit and vegetable intake is well below the recommended level of 5–9 servings per day.’</td>
<td>Effortful processing, Self-referencing, Normative perceptions, Attitudes</td>
</tr>
</tbody>
</table>
provides information addressing individuals’ status on key behavioral determinants for the purpose of enhancing their motivation or ability to change
Proper Control Group

- Standard Health Education Materials
- Expectancy Only (Pseudo or Placebo Tailoring)
- Group Targeted
  - “composite” character constructed from message bank
- Random Tailoring
- Mismatched Tailoring
- Partial Tailoring/Dismantling Studies
  - Isolate active ingredients
Dismantling Studies

– Personalization
  - Identification
  - Raising Expectation
  - Contextualization

– Feedback
  - Descriptive
  - Comparative
  - Evaluative

– Message Adaptation
Tailored Interventions for Motivating Smoking Cessation: Using Placebo Tailoring to Examine the Influence of Expectancies and Personalization

Monica S. Webb, Vani Nath Simmons, and Thomas H. Brandon
University of South Florida and the H. Lee Moffitt Cancer Center & Research Institute

The present study examined mechanisms underlying the effectiveness of tailored interventions for motivating smoking cessation. The study used a placebo-tailoring design to test whether the efficacy of tailoring was due, in part, to personalized features in addition to the theoretically based content. Two hundred forty adult smokers were randomized to 1 of 3 conditions: standard booklet, minimally personalized booklet, or extensively personalized booklet. The interventions varied in their degree of ostensible tailoring, yet the actual smoking-related content of the booklets was identical. A dose-response relationship was hypothesized, with the greatest apparent tailoring producing the most positive outcomes. This pattern was found for evaluation of the booklets, with trends for readiness to change and self-efficacy increases. Moreover, as hypothesized, the effect of the interventions on readiness was moderated by participants’ expectancies about tailoring.
Minimal-personalization condition

The cover letter contained the following statement:

“The information contained in the following report has been prepared for [participant’s name], and is based on the information you provided.”
Figure 1. Mean evaluations of content by condition ($p = .00$). Error bars represent standard errors of the means.
Expectancy Priming of Smoking Cessation Messages Enhances the Placebo Effect of Tailored Interventions

Monica S. Webb, Peter S. Hendricks, and Thomas H. Brandon
University of South Florida and the H. Lee Moffitt Cancer & Research Institute

Objective: Previous research (Webb, Simmons, & Brandon, 2005) suggested that smokers’ reactions to self-help materials were more positive if they believed that the materials had been personally tailored to their individual characteristics and if they held expectancies that tailored interventions are superior to standard, or generic, interventions. The authors’ objective in the current study was to replicate and extend this research by testing the efficacy expectancy priming before intervention delivery. Design: In a 2 × 2 factorial experiment, 210 smokers (M = 23 cigarettes/day) recruited from the community (62% female; 92% Caucasian; mean age = 49) were randomly assigned to 1 of 4 conditions: placebo-tailored intervention/no priming, placebo-tailored intervention/priming, standard intervention/no priming, or standard intervention/priming. The tailoring-related expectancies of participants’ in the priming conditions were primed before they were presented with the respective intervention booklets. Main Outcome Measures: Content evaluations, readiness to quit smoking, cessation self-efficacy, smoking-related knowledge, and progress toward quitting (behavior changes). Assessments occurred by mail at baseline and at 1-month postintervention. Results: Similar to the earlier study, the placebo-tailored booklets produced superior evaluations and smoking-related cognitive and behavioral changes. Moreover, the pretreatment expectancy priming successfully altered participants’ tailoring-related expectancies and also produced superior evaluations and outcomes. Conclusion: Findings support a causal role of tailoring-related expectancies on the efficacy of tailored interventions and suggest that interventions can be enhanced via expectancy priming.
Effect Size In Tailoring Research

Greater the Gap in Tx and Control the Larger and/or More Distal the Proposed Effect
Health Communication “Segmentation” Continuum

Level of Segmentation/Tailoring
- Populations
- Population Sub-groups
- Individuals

High Audience Segmentation & Message Customization
- Individually Tailored
- Individual Assessment
- Group Tailored
- Population Tailored

Low Audience Segmentation & Message Customization
Narcissism of Minor Differences

- **Design 1 (Large TX-C Gap)**
  - Tailoring vs. Brochure = Distal and/or Large Effect

- **Design 2 (Moderate TX-C Gap)**
  - Personalization vs. Full Tailoring = Proximal and/or Moderate Effect

- **Design 3 (Small TX-C Gap)**
  - Head to Head Adaptation Comparison = Proximal and/or Small Effect
    - Self Determination Tailoring vs. TTM Tailoring
When Tx and Control Gap is Small Focus May Shift from Outcomes to....

- **Design 4 (No Gap)**
  - MI (human) vs. Tailoring (E-MI)
    - Cost-Benefit
    - Feasibility
    - Mediators
    - Moderators
    - Treatment Matching/Optimization
First, a little theory

- Linear vs. Complex
- Role of Epiphany
- Self-Determination Theory
- Motivational Interviewing
## Motivation Continuum: Corresponding Intervention Models

<table>
<thead>
<tr>
<th>Rational</th>
<th>Emotive</th>
<th>Spiritual/Metaphysical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>Attitude</td>
<td>Meaning</td>
</tr>
<tr>
<td>Planned</td>
<td></td>
<td>Epiphany</td>
</tr>
<tr>
<td>Conscious</td>
<td></td>
<td>Unconscious</td>
</tr>
<tr>
<td>Left Brain</td>
<td></td>
<td>Right Brain</td>
</tr>
<tr>
<td>Linear</td>
<td></td>
<td>Chaotic</td>
</tr>
</tbody>
</table>

- Health Belief Model
- Social Cognitive Theory
- Transtheoretical Model
- Theory of Reasoned Action
- Self Determination Theory
- Chaos Theory
- Motivational Interviewing
Does Health Education Cause Harm?

- 659 problem drinkers in Northern California
  - General population sample (n=239)
  - Treatment sample (n=420)
- Assessed 1-, 3-, and 5-years post-baseline

At 1-year follow-up, respondents drinking ‘a lot less’ were read a list of potential reasons why.

1. you decided that your drinking was causing you health problems
2. you decided that you hit rock bottom with your drinking
3. you had a traumatic experience
4. **you weighed the pros and cons of drinking**
5. you were affected by seeing someone drunk or high
6. someone you knew quit or reduced their drinking
7. your doctor warned you to stop or cut down
8. your spouse or partner warned you to stop or cut down
9. you had a major change in your life-style, such as in your job, family or personal life
10. **you had a religious or spiritual experience.**

Table 2  Logistic regression analyses of remission from problem drinking (did not meet problem drinker criteria at any follow-up).

<table>
<thead>
<tr>
<th></th>
<th>General population sample</th>
<th>Treatment sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 239)</td>
<td>(n = 420)</td>
</tr>
<tr>
<td></td>
<td>OR (95% CI)</td>
<td>OR (95% CI)</td>
</tr>
<tr>
<td>Demographic measures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (versus 25 or under)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26–39</td>
<td>3.22 (1.41–7.37)</td>
<td>0.93 (0.39–2.24)</td>
</tr>
<tr>
<td>40+</td>
<td>0.85 (0.31–2.38)</td>
<td>2.28 (0.92–5.67)</td>
</tr>
<tr>
<td>Ethnicity (versus white)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>African-American</td>
<td>3.61 (1.11–11.69)</td>
<td>†</td>
</tr>
<tr>
<td>Hispanic</td>
<td>2.66 (1.11–6.34)</td>
<td>†</td>
</tr>
<tr>
<td>Other</td>
<td>1.99 (0.58–6.78)</td>
<td>†</td>
</tr>
<tr>
<td>Income (versus &lt; $25 000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;$25 000</td>
<td>2.48 (1.12–5.47)</td>
<td>†</td>
</tr>
<tr>
<td>Severity measures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AA attendance at T2</td>
<td>0.18 (0.03–1.04)</td>
<td>†</td>
</tr>
<tr>
<td>Dependence Score</td>
<td>†</td>
<td>0.81 (0.74–0.88)</td>
</tr>
<tr>
<td>ASI psychiatric score</td>
<td>†</td>
<td>0.02 (0.00–0.07)</td>
</tr>
<tr>
<td>Reasons for drinking less</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hit rock bottom</td>
<td>4.35 (1.12–16.85)</td>
<td>1.92 (1.06–3.49)</td>
</tr>
<tr>
<td>Traumatic event</td>
<td>2.66 (1.00–7.07)</td>
<td>2.16 (1.19–3.92)</td>
</tr>
<tr>
<td>Weigh pros and cons</td>
<td>0.44 (0.22–0.91)</td>
<td>0.40 (0.22–0.72)</td>
</tr>
<tr>
<td>Saw someone else drunk or high</td>
<td>†</td>
<td>0.63 (0.36–1.11)</td>
</tr>
<tr>
<td>Doctor warning</td>
<td>†</td>
<td>0.50 (0.28–0.89)</td>
</tr>
<tr>
<td>Spouse/partner warning</td>
<td>0.17 (0.05–0.58)</td>
<td>†</td>
</tr>
<tr>
<td>Spiritual/religious experience</td>
<td>2.94 (1.05–8.23)</td>
<td>2.36 (1.36–4.08)</td>
</tr>
</tbody>
</table>

Quantum Change


“Quantum Change is a vivid, surprising, benevolent, and enduring personal transformation. Some quantum changes are insightful, an "aha!" that leaves a person breathless and confident of a new truth and a new way of thinking. Other quantum changes are mystical, like Saint Paul’s on the road to Damascus. Both kinds tend to impart a mysterious and enduring sense of peacefulness. Both mark the beginning of lasting and often pervasive changes in a person’s life. Both usually involve a significant alteration in how one perceives other people, the world, oneself, and the relationships among them. What differentiates the mystical type is the sense of being acted upon by something outside and greater than oneself. ”
“Buried in the statement “I just decided”\textsuperscript{1}, however can be another kind of experience that has been confused with ordinary decision making. It is the insightful type of quantum change. When people talk about such experiences in shorthand, they may say “it just happened” or “I just decided”. Inquire a little more closely, however, and it becomes apparent that the process is somewhat more complex.” (page\textsuperscript{37})
Self-Determination Theory

MI and Self-Determination Theory


Intrinsic-Extrinsic Continuum

NOT SELF-DETERMINED
DETERMINED

Extrinsic Motivation

Intrinsic Motivation

Novelty
Challenge
Pleasure

External Regulation
Introjected Regulation
Identified Regulation
Integrated Regulation

Compliance Rewards
Ego
Guilt/Shame
Competence/Autonomy/Relatedness
Personal Importance
Conscious Value
Congruent Meaning

Rewards
Guilt/Shame
Competence/Autonomy/Relatedness
Personal Importance
Conscious Value
Congruent Meaning

Amotivation
Self-Determination Theory: Essential Human Needs

- Competence
- Autonomy
- Relatedness
### Assessing Intrinsic Motivation

The reason I eat fruit and vegetables is:

<table>
<thead>
<tr>
<th>Number</th>
<th>Reason</th>
<th>Subscale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Because I want to take responsibility for my own health.</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Because I would feel guilty or ashamed of myself if I didn’t.</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Because I personally believe it is a good thing for my health.</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Because others would be upset with me if didn’t</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>I really don't think about it.</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>Because I have carefully thought about it and believe it is very important for me</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Because I would feel bad about myself if I didn’t.</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>Because it is an important choice I really want to make.</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Because I feel pressure from others to eat fruit and vegetables.</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>Because it is easier to do what I am told than think about it.</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>Because it is consistent with my life goals.</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>Because I want others to approve of me.</td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td>Because it is important for being as healthy as possible.</td>
<td>1</td>
</tr>
<tr>
<td>14</td>
<td>Because I want others to see I can do it.</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>I don't really know why.</td>
<td>3</td>
</tr>
<tr>
<td>16</td>
<td>Because not doing so puts me at great health risk. (experimental)</td>
<td>1</td>
</tr>
<tr>
<td>17</td>
<td>Because my family wants me to. (experimental)</td>
<td>2</td>
</tr>
</tbody>
</table>

Adapted from Williams G, et al Univ of Rochester
Subscales to Intrinsic Motivational Scale

1. Autonomous Response
2. Controlled Response
3. Amotivational Response
### Association of Motivational Variables with 1 Year Change in Fruit and Vegetable Intake and Self Efficacy in Healthy Body/Healthy Spirit

(n=733)  

<table>
<thead>
<tr>
<th></th>
<th>Baseline (n=925)</th>
<th>Post (n=876)</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SE</td>
<td>FV</td>
<td>SE</td>
</tr>
<tr>
<td>Autonomous Response</td>
<td>.29**</td>
<td>.31**</td>
<td>.22**</td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controlled Response</td>
<td>.13**</td>
<td>.02</td>
<td>.11**</td>
</tr>
<tr>
<td>Extrinsic motivation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amotivational Response</td>
<td>-.03</td>
<td>-.12**</td>
<td>-.01</td>
</tr>
</tbody>
</table>

*p<.05, **p<.01  

FV= Fruit and vegetable intake  
SE= Self-efficacy to eat more F & V
## Association of Motivational Variables with Fruit and Vegetable Intake, Self Efficacy, & Social Support in Body & Soul

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th></th>
<th>Post</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>FV</td>
<td>SE</td>
</tr>
<tr>
<td>Autonomous Response</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td>.25**</td>
<td>.33**</td>
<td>.20**</td>
<td>.23**</td>
</tr>
<tr>
<td>Controlled Response</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extrinsic motivation</td>
<td>.12**</td>
<td>.04</td>
<td>.26**</td>
<td>.07</td>
</tr>
</tbody>
</table>

*p<.05, **p<.01

FV= Fruit and vegetable intake
SE= Self-efficacy to eat more F & V
SS= Social Support
Tx Mediation in Body & Soul

Autonomy: Moral vs. Pragmatic

- **Moral/Ideal**
  - Must motivate through autonomy pathway

- **Pragmatic**
  - Guilt, shame, pressure ok for some
  - “Meet them where they are”
MOTIVATIONAL INTERVIEWING

“client-centered, directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence”

Rollnick and Miller, 2001
The goal is to facilitate fully informed, deeply contemplated, and internally motivated choices, not necessarily to change behavior.
FUTILITY OF ADVICE

Behavior change should be negotiated NOT prescribed

Advice, persuasion, even information elicit resistance, as much as they do Change
Fundamental Flaws of Usual Care

Behavior change should be negotiated NOT prescribed

Advice, persuasion, even information elicit resistance, as much as they do Change
Reflective Listening

- Statement, not a question
- Ends with a down turn
- Hypothesis testing
  (If I understand you correctly, *it sounds like*..)
- Affirms and validates
- Keeps the client thinking and talking
Types of Reflections

- Content
- Feeling/Meaning
- Double-Sided
- Rolling with Resistance
- Amplified Negative
- Reflect on Omission
- Action
Content Reflection
Feeling Reflection
Double-Sided Reflection
Amplified Negative Reflection
Potential Novel Constructs: Opportunities for Tailoring

- Reflective Tailoring
- Eliciting Change Talk
  - 0-10 Motivation
  - 0-10 Confidence
- Autonomy Supportive Style
  - Pull vs. Push
- Building Intrinsic Motivation
  - Epiphany
  - Values
Health Education

- PUSH
- PERSUADE
- EXTERNAL SOURCE
- INFORM
- LINEAR

Motivational Interviewing

- PULL
- ELICIT
- INTERNAL SOURCE
- INSPIRE
- EPIPHANY
Push
You should because.....
It is important because......
Here’s how to change...
You must...
We have the answer
Let us tell you

Pull
Why might you?
Why is it important to change?
How might you do it?
You might....
You have the answer
Let ‘s help you find your way

Pre-contemplator
It Is not important to quit...
you are not ready
So read this...
You need to.....

“Pre-contemplator”
Smoking works for you
It is something you will do forever
What would it take for your to consider ...
Reflective Tailoring: Rolling with Resistance

- You are really worried about withdrawal symptoms, particularly weight gain

- When you buy fruit and it rots, you feel the money was a big waste

- Given how much you like ice cream, it is something you might have to include once in a while
Reflective Tailoring: Rolling with Resistance

- Change is scary, and last time things did not go so well. Your worried again about withdrawal symptoms.

- Giving up your favorite foods and having to deprive yourself is not easy. Last time trying to make so many changes at once may have made it too hard.
Welcome to Project Quit!
Project Quit is an online smoking cessation program being developed by researchers at the University of Michigan, Group Health Cooperative, and Henry Ford Health System. Funding for this program is provided by the National Cancer Institute.

New participant? Enter your referral code to get started:

REGISTER

Already registered? Enter your username and password here:

Email address

Password

SUBMIT

CANCEL

Help | Credits | Contact Us
High Tailoring Depth Barriers

After looking at all of your survey responses, here's a quick highlight of what can help you as you prepare to quit.

**Your advantages**

- **Men** tend to suffer less severe withdrawal symptoms than women.

- **You have quitting experience.** The last time you quit, you were free of cigarettes for **almost three months**. Use what you learned from that attempt to help you quit for good this time.

- **No one in your home smokes.** That's one less challenge you will face.

- **You're tired of spending money on cigarettes.** Let's look at your savings: You will save **$2,450** in one year alone by not smoking anymore. How about using some of that savings to take your family on a small vacation next year?

- The **NicoDerm CO®** patches you are receiving as part of **Project Quit** can help. They are designed to provide a lower level of nicotine to your blood than cigarettes, and allow you to gradually do away with your body's need for nicotine. Since you appear to be highly addicted, it's important that you follow each Step as directed.

We also learned from your survey responses that some things might make quitting more difficult for you. Be ready to tackle the following issues.

**What to look out for**

- **You aren't so sure you can keep from smoking during negative emotional times, especially when you feel angry.** We will cover new strategies to help you deal with these times once you quit.

- **Your social circle contains many people who smoke.** Make sure they know how important it is to you to want to quit. You may need to cut back on a few activities in the beginning if you feel being with them might lead you to reach for a cigarette.

- Something you are used to doing is **smoking while you drink alcohol.** While not the only choice, a good choice would be to cut back or stop drinking for a few weeks while you adjust to your new smoke-free lifestyle. It's helpful to avoid things that may cause you to slip back into your old routines.

- **Others tempting you.** Be ready. Say, "No thank you. I don't smoke." Practice saying it now.
High Tailoring Depth Barriers

After looking at all of your survey responses, here's a quick highlight of what can help you as you prepare to quit.

Your advantages

You are thinking about becoming pregnant, and you feel it's important to quit before doing so. You are taking the right step to create a healthy environment for your growing family.

Very few people in your social circle smoke. They will be happy to see you take this big step. Make sure to share your quitting news with them.

You feel your friends and family will offer you a lot of support as you quit. Be sure to read Build Your Support Network below to make the most of this.

You're tired of spending money on cigarettes. Let's look at your savings: You will save $1,642 in one year alone by not smoking anymore. How about using some of those savings to take a short "couples get-away" vacation?

The NicoDerm CO patches you are receiving as part of Project Quit can help. They are designed to provide a lower level of nicotine to your blood than cigarettes, and allow you to gradually do away with your body's need for nicotine.

We also learned from your survey responses that some things might make quitting more difficult for you. Be ready to tackle the following issues.

What to look out for

You aren't so sure you can keep from smoking during routine parts of your day - especially while drinking coffee. We will cover new strategies to help you deal with these times once you quit.

You may be quitting, but your husband still smokes. Discuss ways to make your home free from temptations to smoke. What compromises can you make together?

Something you are used to doing is smoking while you drink alcohol. While not the only choice, a good choice would be to cut back or stop drinking for a few weeks while you adjust to your new smoke-free lifestyle. This will also help you prepare for your future pregnancy plans.

Others tempting you. Be ready. Say, "No thank you. I don't smoke." Practice saying it now.
Building confidence and importance: Clinical Application

Willingness/Importance
On a scale of 0 to 10, with 10 being very willing, how willing (interested/motivated/important) are you to ...... (quit smoking, eat more F & V, exercise more, take your meds)?

012345678910
Not at all Somewhat Very

Confidence
On a scale of 0 to 10, with 10 being very confident, assuming you decided to ....... (quit smoking, begin exercising) how confident are you that you could succeed?

012345678910
Not at all Somewhat Very
Building confidence and importance: Tailoring Application

Here we have an activity to help build your motivation for eating fruit and vegetables. Over the phone you told us your level of importance and confidence for eating more fruit and vegetables. Look over the scale below and see where you fall on the scale from 1-10.

Your level of importance/confidence

Let’s start with looking at how important you think it is to increase your fruit and vegetable intake. You rated your level of importance as a 4. Now, what would it take you to go from a level 4 of importance to a higher number such as a 6 or 7?

You also rated your confidence in eating more fruit and vegetables as a 4. Why was your confidence a 4 and not a 1? Write down your answer in the space below.

What would it take you to go from a 4 to a higher number such as a 6 or 7 in building your confidence to eat more fruits and vegetables?
To help build your confidence, think of the last time you were faced with a challenge and succeeded. What did you do mentally, or what thought processes did you use? In the chart below, write down what has worked for you in the past and how you can apply it to reaching your goals now. To see how people just like yourself have used this tool, we’ve given you an example.

<table>
<thead>
<tr>
<th>What I have done in the past:</th>
<th>What I can do now</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: I started with a small, realistic goal when I was trying to cut down on the amount of cigarettes I smoke each day.</td>
<td>Example: I’ll start eating more fruit and vegetables by helping myself to an extra serving today.</td>
</tr>
</tbody>
</table>

What personal strengths did you think about when doing this activity?

You value taking responsibility for your health [*and the health of your family*] and feel that it is important for [you/your family] to be healthy. Remember, by choosing to take part in the Eat for Life program, you’ve already made a step towards change.
<table>
<thead>
<tr>
<th>Self-efficacy</th>
<th>Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can but doesn’t want to</td>
<td>Can and wants to</td>
</tr>
<tr>
<td>Can’t and doesn’t want to</td>
<td>Can’t but wants to</td>
</tr>
</tbody>
</table>
Reflection

- High Importance/Low Efficacy
  - You seem like you really want to change XX, but you are struggling to find the confidence to do it

<table>
<thead>
<tr>
<th>Can but doesn’t want to</th>
<th>Can and wants to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can’t and doesn’t want to</td>
<td>Can’t but wants to</td>
</tr>
</tbody>
</table>
Reflection

- Low Importance/High Efficacy
  - You feel like you can XXXX, but you are not that totally convinced you really need to

<table>
<thead>
<tr>
<th>Can but doesn’t want to</th>
<th>Can and wants to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can’t and doesn’t want to</td>
<td>Can’t but wants to</td>
</tr>
</tbody>
</table>
About Your Motivation and Confidence

What is your most important reason for staying healthy? Select one.
- To live a full and active life
- To live without having to depend on someone else
- To be able to work
- To keep my healthcare costs down
- To be there for and take care of my family

Currently, how MOTIVATED are you to manage your diabetes?

<table>
<thead>
<tr>
<th>Not at all motivated</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>Extremely motivated</th>
</tr>
</thead>
</table>

Currently, how MOTIVATED are you to take your glimepiride tablets as prescribed?

<table>
<thead>
<tr>
<th>Not at all motivated</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>Extremely motivated</th>
</tr>
</thead>
</table>
OK, Victor. Let's get to work.

Our team of experts has reviewed what you told us about your motivation and confidence to take your [REDACTED] as directed. You scored 3 out of 10 for motivation and 3 out of 10 for confidence. As you can see below, these scores place you in the lower left box of the "Want-To/Can-Do" table. Your overall goal is to improve your motivation and confidence so you can move into the upper right box.
This Week's Challenge


More...

Set Your Goal for the Week

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat elit, sed diam.

Select 1 Challenge:

A. This week I will not smoke
B. Select how many days you'll go without smoking:
C. Select the number of cigarettes you'll smoke this week:

How Motivated Are You?

1. On a scale of 1 - 10, how motivated do you feel to meet this challenge?
2. On a scale of 1 - 10, how motivated do you feel to meet this challenge?
BUILDING INTRINSIC MOTIVATION
The medication is good for my diabetes.
I feel guilty if I don’t take my med’s.
It’s an important choice that I make for myself.
I’ve seen what diabetes has done for others.
I like the challenge of taking responsibility for my health.
My family and/or friends get upset with me if I don’t take my med’s.
I want to be in charge of my diabetes.
My physician gets upset with me if I don’t take my med’s.
It is consistent with my goals of taking control of my diabetes.
I can avoid or delay getting other health problems if I take my med’s.
I want to set a good example for others.
Strength from Within

Where do you get your motivation?

<table>
<thead>
<tr>
<th>Your Motivation</th>
<th>Internal</th>
<th>External</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
</tr>
</tbody>
</table>

As you can see from the chart above, we’ve split motivation into two categories: internal and external. In general, a person’s reasons for wanting to do things are driven by either outside forces or internal desire. If you are seeking approval for your actions, trying to avoid the bad stuff, or motivated by some kind of reward, your drive is external. If you take action for your own peace of mind or simply because it makes you feel good to do it, you are drawing on your internal drive.

Let’s look at the factors that affect your desire to stick to a medication routine. In analyzing your answers further, we learned that you are currently more motivated by outside forces to take your Amaryl®. Your external reasons include:

- Feeling guilty if you don’t. (Avoiding bad feelings rather than focusing on good ones?)
- Not wanting people who care about you to get upset with you. (We all seek approval from loved ones. But ask yourself why taking it regularly is best for YOU.)
- Not wanting your physician to get upset with you. (Of course you want to do what your doctor tells you. But why is it important for YOU?)
Taking Action

Well, Victor, hopefully this guide has given you some meaty information to chew on. The question is, how do you put it all into a plan that works best for you? Read on, we've got just the ticket!

Increase your Internal Motivation

Most of us know what we enjoy in life, whether it's our work, a favorite hobby, or spending time with our loved ones. We don't need to be paid, cheered on, or even thanked to do these things. Our enjoyment comes from somewhere deep inside.

Of course there are lots of things we don't really want to do, but "should." These things don't offer us the same sense of pleasure or pride, so we're less likely to do them on a regular basis. In some cases, other people may tell us we need to do these things, and we will, for a while, because we want to please them. But unless we find our own reasons, we are not as likely to keep up with a routine.

One of the goals we'd like you to work on is to increase the number of internal reasons you have for taking your Amaryl® regularly. First, let's review the
One of the goals we’d like you to work on is to increase the number of internal reasons you have for taking your medication regularly. First, let's review the reasons you told us about:

- Feeling guilty if you don’t.
- Not wanting people who care about you to get upset with you.
- Not wanting your physician to get upset with you.

Now, put them to this simple test. For each one, ask yourself these seven questions:

1. Does it help you achieve your goals?
2. Does it match your interests?
3. Does it make you feel proud?
4. Is it OK that you don’t receive approval from others for it?
5. Is it OK if you aren't rewarded for it?
6. Does it focus on positive results for you?
7. Does it please YOU to do it (even if it pleases others as well)?

If you were able to answer “Yes” to these questions, then that reason is in line with your values and comes from within. Now, try to think of two new reasons to stick to your treatment plan. Do they pass the test?
<table>
<thead>
<tr>
<th>Comparison</th>
<th>n=250</th>
<th><strong>Push:</strong> HEALTH EDUCATION/Standard Tailoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>TX</td>
<td>n=250</td>
<td><strong>Pull:</strong> MOTIVATIONAL</td>
</tr>
<tr>
<td>INTERVIEWING</td>
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</tbody>
</table>

**Target Audience:** African American Adults

**Study Sites:** Henry Ford (MI) & Kaiser Permanente (GA)

**Primary Outcome:** F & V intake at 3 month follow-up

**Message Delivery:** Three mailed, print newsletters
## P 2 Team

<table>
<thead>
<tr>
<th>Institution</th>
<th>Name</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group Health Cooperative</strong></td>
<td>Julia Anderson</td>
<td>Survey Project Manager</td>
</tr>
<tr>
<td></td>
<td>Sarah Greene</td>
<td>CHCR Recruitment Core Director</td>
</tr>
<tr>
<td></td>
<td>Karin Johnson</td>
<td>CHCR Project Manager</td>
</tr>
<tr>
<td></td>
<td>Roy Pardee</td>
<td>Programmer/Analyst</td>
</tr>
<tr>
<td></td>
<td>Cheryl Wiese</td>
<td>Survey Program Manager</td>
</tr>
<tr>
<td><strong>Henry Ford Health System</strong></td>
<td>Gwen Alexander</td>
<td>Lead Site Investigator</td>
</tr>
<tr>
<td></td>
<td>Margie Day</td>
<td>Research Assistant</td>
</tr>
<tr>
<td></td>
<td>Rick Krajenta</td>
<td>Programmer/Analyst</td>
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<tr>
<td><strong>Kaiser Permanente Georgia</strong></td>
<td>Josephine Hinchman</td>
<td>Project Manager</td>
</tr>
<tr>
<td></td>
<td>Dennis Tolsma</td>
<td>Lead Site Investigator</td>
</tr>
<tr>
<td><strong>University of Michigan</strong></td>
<td>Rachel Davis</td>
<td>Project Manager</td>
</tr>
<tr>
<td></td>
<td>Ken Resnicow</td>
<td>Principal Investigator</td>
</tr>
<tr>
<td></td>
<td>Abdul Shaikh</td>
<td>Project Manager</td>
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<tr>
<td></td>
<td>Mike Nowak</td>
<td>Data Manager</td>
</tr>
<tr>
<td></td>
<td>Guangyu Zhang</td>
<td>Data Analyst</td>
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<tr>
<td>Health Education</td>
<td>Motivational Interviewing</td>
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<td>PUSH</td>
<td>PULL</td>
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<td>PERSUADE</td>
<td>ELICIT</td>
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<td>EXTERNAL SOURCE</td>
<td>INTERNAL SOURCE</td>
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<td>INFORM</td>
<td>INSPIRE</td>
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<td>LINEAR</td>
<td>EPIPHANY</td>
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<td>Control Group: PUSH</td>
<td>Intervention Group: PULL</td>
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<td>Essential Tailoring</td>
<td>Essential Tailoring</td>
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<td>Personalization</td>
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<td>Motivational Predisposition</td>
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<td>Personal Values</td>
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<td>Religiosity/Spirituality</td>
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<td></td>
<td>Need for Cognition</td>
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<tr>
<td></td>
<td>Social Roles</td>
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</tbody>
</table>

Figure 1. Subject Flow

1,650 individuals randomly selected from patient rosters of two health care systems and sent opt out recruitment letters

512 (31%) eligible enrolled

8 individuals excluded due to unusable/incomplete questionnaires

504 eligible participants with complete baseline survey randomized

253 participants randomized to Experimental Group

251 participants randomized to Comparison Group

45 (18%) Experimental participants lost at three month follow up

36 (14%) Comparison participants lost at three month follow up

208 (82%) Experimental participants at three month follow up

215 (86%) Comparison participants at three month follow up

423 (84%) participants at three month follow up
Need for Cognition: Cacioppo & Petty, 1984

- I would prefer complex to simple problems.
- I like to have the responsibility of handling a situation that requires a lot of thinking.
- The idea of relying on thought to make my way to the top appeals to me.
- I really enjoy a task that involves coming up with new solutions to problems.
You told us that you generally like to eat the same foods and aren’t inclined to try new things. Making a personal choice to try new things can take some effort. Many people find that in order to break through and do something new it helps to think about successful changes they’ve made in the past when they want to build up their motivation to change.

Think of some times in your life when you tried something new and it worked out, such as learning how to play a new sport or trying the internet for the first time and write them down in the spaces below.

1. 
2. 
3. 

How did doing these things make you feel? How, if at all, can you use these experiences to apply the same strategies to add more fruit and vegetables to your diet?

Strength can come from many different parts of your life, such as your inner self, close friends, and family. Think about where it comes from for you, and remember, the Eat for Life program understands the difficulty in taking risks and we encourage gradual changes to achieve a healthy lifestyle.
You told us that you’re open to new experiences in your life, such as trying new foods. It’s great that you said you are willing to add some new healthy foods to your diet!

In order to break through and try something new, think about successful changes you’ve made in the past. Remember times in your life when you tried something new and it worked out such as learning to play a new sport or trying the internet for the first time. Each time it was a bit scary or overwhelming, but quickly became habitual and easy.

Now, remembering your past success, apply the same strategies that helped you succeed before to trying new fruits and vegetables. Check out the recipes included in these personalized newsletters for more ideas on how to add fruit and vegetables to your diet, and remember, the Eat for Life program is here to help you make the change!
SELF-EFFICACY: HIGH NFC PULL

You told us that you are not particularly confident about eating fresh produce when you are **very hungry**.

*[if past5yrs=yes]* Keeping in mind you also said there was a time in the past five years when you ate more fruit and vegetables than you eat now, take a moment to think about one or two ways that you could make it easier to reach for a healthy option when you’re very hungry. Some people also find that skipping meals makes them even hungrier so they try to keep a regular eating schedule throughout the day.
SELF-EFFICACY: LOW NFC PUSH

You told us that you are not particularly confident about eating fresh produce when you are very hungry.

[if past5yrs=yes] Keeping in mind you also said there was a time in the past five years when you ate more fruit and vegetables than you eat now, when you’re very hungry here are some ways to make it easier to reach for a healthy option:

– Have ‘smart snacks’ such as chopped veggies and hummus handy when you get hungry
– Don’t skip meals, it leads to more hunger
– Veggies and fruit can be fiber rich, filling you up and controlling your hunger
BARRIERS: HIGH NFC PULL

From your survey responses it looks like you're ready to start eating more fruit and vegetables, but there are some things you told us can get in your way. It sounds like you don't eat fruit and vegetables as much as you'd like to because:

A. they often spoil before you get a chance to eat them
B. they cost too much
C. your children don't like to eat fruit

Since we talked to you over the phone, which, if any, of these barriers have you been able to overcome? Place a star next to any you now feel do not stop you from eating fruit and vegetables. For the rest, what ideas can you think of that might make it easier to eat fruit and vegetables? Take a minute to write them down in the table below.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td></td>
</tr>
<tr>
<td>B.</td>
<td></td>
</tr>
<tr>
<td>C.</td>
<td></td>
</tr>
</tbody>
</table>

In case you're having some trouble coming up with ideas, here are some connections that others facing similar barriers have made:

- Buy both fresh and canned or frozen fruit and vegetables. Use the fresh first and save the others for the end of the week
- Check out coupons and your local store for deals on canned fruit and vegetables.
- Make fruit fun, make it dessert! Try making apple or peach crisps or pies or fresh fruit with whipped cream and angel food cake.
From your survey responses you told us that you’re ready to start eating more fruit and vegetables, but there are some challenges that stop you from meeting your goals. Use the following table to help you overcome your barriers to eating fruit and vegetables. Go ahead, cut it out and place it on your refrigerator as a reminder to help you get started.

<table>
<thead>
<tr>
<th>A. Spoil before I get a chance to eat them</th>
<th>Buy both fresh and canned or frozen fruit and vegetables. Use the fresh first and save the others for the end of the week</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Don’t know how to prepare them</td>
<td>Try adding vegetables to your favorite foods. Shred carrots or zucchini into meatloaf or casseroles. Include chopped vegetables in pasta sauce or lasagna.</td>
</tr>
<tr>
<td>C. Don’t like the taste of most fruit/vegetables</td>
<td>Cover up the taste. Throw some vegetables in their favorite dish or add some fresh fruit to a bowl of ice cream</td>
</tr>
</tbody>
</table>
SOCIAL SUPPORT: HIGH NFC PULL

Intervention high SOCIAL SUPPORT (family & friends) + NFC: PULL

Making lifestyle changes are easier when you have the support of important people in your life. We’re connected to the people around us through bonds of love, friendship, faith, and community. Support can come in different forms, like words of encouragement from friends, to family picnics where everyone decides to bring healthy dishes and make wholesome foods the theme of the day.

You told us that you're family and friends are supportive of your desire to eat more fruit and vegetables. Think about the many ways they could, or already do support you. Identify three important people in your life and write down the ways they help you eat better.

<table>
<thead>
<tr>
<th>Name</th>
<th>Ways they can provide support</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Now that you have thought of three people who can help support your commitment to eat healthier ask yourself how you can approach these people for help. It would be wonderful if everyone could anticipate exactly when and what types of help we need from them, but unfortunately that is not always the case. It takes a strong person to ask for help, but many find the response is worth it.
SOCIAL SUPPORT: LOW NFC PUSH

Over the phone you mentioned that you feel your friends and family don’t support your desire to eat fruit and vegetables. Making lifestyle changes are easier when you have the support of important people in your life. We’re connected to the people around us through bonds of love, friendship, faith, and community. Support can come in different forms, like words of encouragement from friends, to family picnics where everyone decides to bring healthy dishes and make wholesome foods the theme of the day.

Think about the many ways the people in your life could support you. Below we have a list of people who may be important in your life. Try to match three of these people with some possible ways they could use to help encourage you in eating more fruit and vegetables.

<table>
<thead>
<tr>
<th>Supporters</th>
<th>Types of Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Spouse/partner]</td>
<td>Encouraging words of support</td>
</tr>
<tr>
<td>Sister</td>
<td>Recipe swapping</td>
</tr>
<tr>
<td>Friend</td>
<td>Listening</td>
</tr>
<tr>
<td>Co-worker…</td>
<td>Shop together at the grocery store</td>
</tr>
</tbody>
</table>

Now that you’ve had a moment to think about some people in your life who could support your commitment to eat healthier, ask yourself how you can approach these people for help. It would be wonderful if everyone could anticipate exactly when and what types of help we need from them, but unfortunately that is not always the case. It might take some effort to ask for help, but the potential response is worth it!
Tailoring to motivational style

Tina, based on your responses to our survey it sounds like you...

**Intrinsic:** have some meaningful reasons for wanting to eat better. You’ve told us that eating fruit and vegetables as part of a healthy diet is *[something you’ve carefully thought about]* and is *[a key part of taking responsibility for your own health]*.

**Introjected:** are often your own toughest critic when it comes to what you eat. You’ve told us that you *[wouldn’t feel good about yourself/would feel guilty]* if you did not eat more fruit and vegetables. Reasons like this can get you started on the road to better eating, but many people find that lifestyle changes such as healthier eating are easier when they find more meaningful, personal reasons for doing them.

**Extrinsic:** have strong relationships with other people who care about how you eat. You’ve told us that eating more fruit and vegetables will help *[prove to other people/show your family]* that you are leading a healthier life. In addition, it may also be helpful for you to find more personal reasons for eating better such as wanting to take responsibility for your own health.

...In the following section we’re going to help you find additional reasons to motivate and inspire you to eat better and lead a healthier life.
Based on your survey responses it sounds like you have some meaningful reasons for wanting to eat better. You’ve told us that eating fruit and vegetables as part of a healthy diet is:

- important for being as healthy as possible
- a key part of taking responsibility for your own health

In the following section we’re going to help you find additional reasons to motivate and inspire you to eat better and lead a healthier life.
MOTIVATIONAL TAILORING

INTROJECTED MOTIVATION
Based on your survey responses it seems you are often your own toughest critic when it comes to what you eat. You’ve told us that you would feel:

- guilty or ashamed
- Regretful

if you did not eat fruit and vegetables. Reasons like these can get you started on the road to better eating, but many people find that lifestyle changes such as healthier eating are easier when they find more meaningful, personal reasons for doing them. In the following section we’re going to help you find additional reasons to motivate and inspire you to eat better and lead a healthier life.
EXTERNAL MOTIVATION

Based on your survey responses it sounds like you have strong relationships with other people who care about how you eat. You’ve told us that you want to eat fruit and vegetables as part of a healthy diet:

- so you won’t let others down
- so you can set a good example for your family.

It may also be helpful for you to find more personal reasons for eating better such as wanting to take responsibility for your own health. In the following section we’re going to help you find additional reasons to motivate and inspire you to eat better and lead a healthier life.
Values List: Clinical Application

Which of the Following Values, Traits, or Characteristics are Important to you?

Good Parent
Good Spouse/Partner
Good Community Member
Strong
On top of things
Competent
Spiritual
Respected at home
Good Christian (or Jew, Muslim etc)
Successful
Popular (Youth)
Attractive
Disciplined
Responsible
In Control
Respected at work
Athletic
Not hypocritical
Energetic
Considerate
Youthful (Older)
Independent (Older)

Choose your top 3 or 4
It’s often very useful when you think about the important roles in your life to explore how they can help inspire you to make healthy lifestyle changes. Based on your responses over the phone, you told us that the following roles are important to you: *Being a good parent, a good spouse, and a good Christian.*

Which, if any, of the above roles could motivate you to consider eating more fruit and vegetables? For example, some people feel when they eat healthier they can be better role models for their children.

**High need for cognition:** What connections can you make between the roles you value in your life and fruit and vegetables? You can use the space below to write down a few ways in which eating fruit and vegetables may affect one of the above roles.
VALUES TAILORING: LOW NFC PUSH

It’s often very useful when you think about the important roles in your life to explore how they can help inspire you to make healthy lifestyle changes. Based on your responses over the phone, you told us that the following roles are important to you: *Being a good parent, a good spouse, and a good Christian.*

Which, if any, of the above roles could motivate you to consider eating more fruit and vegetables? For example, some people feel when they eat healthier they can be better role models for their children.

**Low need for cognition:** People often find that making this connection helps motivate them to eat a healthier diet. Take a look at the statements below to see how other people have made a connection between their roles, values, and eating better:

- “Eating healthier gives me more energy to play with my kids. Spending time with my kids and being involved in their lives makes our family stronger.”
Thinking about the important roles in your life may help inspire you to make healthy lifestyle changes. Based on your responses over the phone, you told us that the following roles are important to you:

A. Being a good parent
B. Being relatively free from sickness
C. Being creative

Which, if any, of the above roles and values could motivate you to consider eating more fruit and vegetables? People often find that making this connection helps motivate them to eat a healthier diet. Here’s an example of how some people make the connection between their roles, values, and eating better:

A. Being a good parent makes me a role model for my children. When I eat healthy I’m able to set a good example for my kids.
B. 
C. 

What connections can you make between the roles you value in your life and fruit and vegetables? You can use the spaces above to write down a few ways in which eating fruit and vegetables may affect one of the above roles that are important in your life.
Values: Low NFC Push

Thinking about the important roles in your life may help inspire you to make healthy lifestyle changes. Based on your responses over the phone, you told us that the following roles are important to you:

A. Being a good parent
B. Being relatively free from sickness
C. Being creative

Which, if any, of the above roles could motivate you to consider eating more fruit and vegetables? People often find that making this connection helps motivate them to eat a healthier diet. Take a look at the list below to see how other people have made a connection between their roles, values, and eating better:

| A. Being a good parent makes me a role model for my children. When I eat healthy I’m able to set a good example for my kids. |
| B. When I eat meals full of fruit and vegetables I am getting important nutrients that help decrease my chances of getting sick. |
| C. By cooking healthy meals in creative ways, I can eat well and get in touch with my artistic side at the same time. |

Take a minute or two to think about these statements, and circle the ones that best reflect your own connections. Are there any other links you feel are important that are not listed?
Testimonials

Tailored on gender, geography, barriers, religiosity, values and aspirations.

**BARRIERS (Not knowing how to choose fresh produce):**
I was all ready to start adding more fruit and vegetables to my diet. But, picking out the freshest pineapple or the crispest cucumber was out of my league. When trying to figure out what to buy, I learned that my local grocer can be a great help. They can show you how to choose the top produce and tell you what’s in season to get the best deal. I now feel comfortable picking out fruit and vegetables that I know will taste great. *(Anthony, Flint)*

**VALUES/ASPIRATIONS (Achieving the personal look that you are after):**
I feel good when people give me compliments on my appearance, especially when complete strangers come up to me and say how great I look. There’s a lot of truth in that old saying “you are what you eat,” and healthy eating helps me look and feel better about myself. *(Maya, Duluth)*

**RELIGIOSITY:**
I may not be the most religious person, but I place a high value on spirituality in my life. Everything we do has a cause and effect, how we behave, how we treat other people, and even how we eat. I find that my spirit is lifted when I eat in healthy ways because nutritious foods don’t weigh me down. They lighten my spirit, and my body. *(Tyron, Stone Mountain)*
Sarah, during our telephone conversation you told us that you eat about 6 servings of fruit and vegetables a day. You rated your confidence in your ability to increase this amount as 8 out of 10. This sounds like you are confident that you could eat more fruit and vegetables. You also told us that you rated the importance of eating more fruit and vegetables as 9 out of 10. So you feel that it is important to make some changes in how you eat. Based on this information, we've produced a personalized nutrition guide just for you.
What's important to you

Sometimes we're so busy living that we don't take the time to recognize what makes life meaningful. Thinking about what's important in your life may help inspire you to make changes for your health. For instance, you told us that the following values are important to you:

- Being in good physical shape
- Being free from sickness
- Being a good parent

Which, if any, of the above roles or values could motivate you to eat more fruit and vegetables? Here are a few examples of how some people make the connection between their roles, values, and eating better.

How the important values in my life can affect my dietary choices:

- By getting my daily exercise and watching what I eat, I can respect my body and stay in good physical shape.
- When I eat meals full of fruit and vegetables, I am getting important nutrients that help decrease my chances of getting sick.
- Being a good parent makes me a role model for my children. When I eat healthy, I'm able to set a good example for my kids.

Take a minute or two to think about these statements, and circle the ones that best reflect your own connections. Are there any other links you feel are important that are not listed?
Building confidence for healthy eating

We asked you how important you felt it was to eat more fruit and vegetables as well as how confident you felt about being able to eat more produce. Look over the scales below and see where you rated yourself on each from 0-10.

Your level of importance:

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>not at all important</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
<td>9</td>
<td>extremely important</td>
</tr>
</tbody>
</table>

Your level of confidence:

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tr>
<td>not at all confident</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>8</td>
<td>9</td>
<td>extremely confident</td>
</tr>
</tbody>
</table>

Let's start with looking at the **importance** you placed on increasing your fruit and vegetable intake. You rated your level of importance as 9. Why was your importance at 9 and not a lower number? In other words, what makes it so important to you?

To answer this question, it may help to think about how your personal health ranks among your life priorities. For example, people often say that it would be important for them to eat more fruit and vegetables if they were diagnosed with a medical problem such as heart disease or diabetes.

What can you do to keep your motivation strong? What potential challenges lie ahead that could derail your plans to eat healthier? How can you focus on the good things that come from eating healthier?
Listed below are some success stories of people who were able to make changes in different parts of their life by setting small goals. What small goal do you feel you can set to help you eat more fruit and vegetables?

**What I have done in the past:**
- "I set a small, realistic goal when I cut down on the number of cigarettes I smoked."
- "I started with one night class a week when I returned to school for the first time in 15 years."

**What I can do now:**
- "I'll help myself to an extra serving of fruit or vegetables at lunch today."
- "I will try one new recipe a week that includes a fruit or vegetable that I typically don't eat."

We're here to help you maintain your motivation for making healthy decisions about eating more fruit and vegetables. By choosing to take part in **Eat for Life**, you've already made a step toward change.

Female
Low Need for Cognition
High Confidence
High Importance
Michael, during our telephone conversation you told us that you eat about 4 servings of fruit and vegetables a day. You rated your confidence in your ability to increase this amount as 10 out of 10. This sounds like you are very confident that you could eat more fruit and vegetables. That's great! You also told us that you rated the importance of eating more fruit and vegetables as 7 out of 10. So you feel that it is worthwhile to make some changes in how you eat. Based on this information, we've produced an expert nutrition guide just for you.
Male
High Need for Cognition
High Confidence
High Importance

What's important to you

- Overcoming the challenges that life presents you
- Being a good Christian
- Being creative

Which, if any, of the above roles or values could motivate you to eat more fruit and vegetables? Listed below is an example of how some people make the connection between their roles, values, and eating better. What connections can you make between the roles you value in your life and fruit and vegetables? Use the two spaces below to write down ways that eating fruit and vegetables may affect values that are important to you.

How the important values in my life can affect my dietary choices:

Example: By cooking healthy meals in creative ways, I can eat well and get in touch with my artistic side at the same time.

1. __________________________________________
   __________________________________________

2. __________________________________________
   __________________________________________
Building confidence for healthy eating

We asked you how important you felt it was to eat more fruit and vegetables as well as how confident you felt about being able to eat more produce. Look over the scales below and see where you rated yourself on each from 0-10.

### Your level of importance:

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
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### Your level of confidence:

<table>
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<th>1</th>
<th>2</th>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>extremely confident</td>
</tr>
</tbody>
</table>

Let's start with looking at the **importance** you placed on increasing your fruit and vegetable intake. You rated your level of importance as 7. What would it take for you to go from a level 7 of importance to a higher number such as 8 or 9?

**Write down your answer in the space below:**

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
In the chart below, list one or two goals that have helped you change in the past and then list goals you can set now to help you eat more fruit and vegetables. We’ve included examples to get your started.

<table>
<thead>
<tr>
<th>What I have done in the past:</th>
<th>What I can do now:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: I set a small, realistic goal when I cut down on the number of cigarettes I smoked.</td>
<td>Example: I will aim for a realistic goal and eat one more serving of fruit and vegetables today.</td>
</tr>
</tbody>
</table>

1. ____________________________ 1. ____________________________
   ____________________________ ____________________________
2. ____________________________ 2. ____________________________
   ____________________________ ____________________________

What personal strengths did you think about when doing this activity? We're here to help you increase your motivation for making healthy decisions about eating more fruit and vegetables. By choosing to take part in **Eat for Life**, you've already made a step toward change.
Eat for Life

taking charge of your health

Liz, during our telephone conversation you told us that you eat about one serving of fruit and vegetables a day. You rated your confidence in your ability to increase this amount as 1 out of 10. This sounds like you are not very confident that you could regularly eat more fruit and vegetables. You also told us that you rated the importance of eating more fruit and vegetables as 7 out of 10. So you feel that it is worthwhile to make some changes in how you eat. Based on this information, we've produced an expert nutrition guide just for you.
Female
Low Need for Cognition
Low Confidence
High Importance

What's important to you

- Being independent
- Having a lot of excitement in your life
- Achieving the personal look that you are after

Which, if any, of the above roles or values could motivate you to eat more fruit and vegetables? Here are a few examples of how some people make the connection between their roles, values, and eating better.

How the important values in my life can affect my dietary choices:

- Being able to meet my own needs is important to me. By eating healthy, I don't worry as much about getting sick and becoming dependent on others.
- Eating more fruit and vegetables can help me look and feel better than ever.
- I feed my need for adventure by dining at ethnic restaurants to experience the many ways that people spice up their vegetable dishes.

Take a minute or two to think about these statements, and circle the ones that best reflect your own connections. Are there any other links you feel are important that are not listed?
Building confidence for healthy eating

We asked you how important you felt it was to eat more fruit and vegetables as well as how confident you felt about being able to eat more produce. Look over the scales below and see where you rated yourself on each from 0-10.

**Your level of importance:**

<table>
<thead>
<tr>
<th>0</th>
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<tbody>
<tr>
<td>not at all important</td>
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</table>

**Your level of confidence:**

<table>
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<tr>
<th>0</th>
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</tbody>
</table>

Let's start with looking at the **importance** you placed on increasing your fruit and vegetable intake. You rated your level of importance as 7. What would it take for you to go from a level 7 of importance to a higher number such as 8 or 9?

To answer this question, it may help to think about how your personal health ranks among your life priorities. For example, people often say that it would be important for them to eat more fruit and vegetables if they were diagnosed with a medical problem such as heart disease or diabetes.

What would increase your motivation? Think for a minute about your life. What if you lost your health, your independence, your vitality? Right now you are doing okay, but this is a great time to start planning for a healthier future.
Listed below are some success stories of people who were able to make changes in different parts of their life by setting small goals. What small goal do you feel you can set to help you eat more fruit and vegetables?

**What I have done in the past:**
- "I set a small, realistic goal when I cut down on the number of cigarettes I smoked."
- "I started with one night class a week when I returned to school for the first time in 15 years."

**What I can do now:**
- "I'll help myself to an extra serving of fruit or vegetables at lunch today."
- "I will try one new recipe a week that includes a fruit or vegetable that I typically don't eat."

You value taking responsibility for you and your family’s health and feel that it is important for your family to be healthy. We're here to help you increase your motivation for making healthy decisions about eating more fruit and vegetables. By choosing to take part in Eat for Life, you've already made a step toward change.
<table>
<thead>
<tr>
<th></th>
<th>Cohort (n=423)</th>
<th>Dropouts (n=81)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>48.2 (22, 69)</td>
<td>42.7 (24, 67)</td>
</tr>
<tr>
<td><strong>Gender (%) Female</strong></td>
<td>71.6</td>
<td>69.1</td>
</tr>
<tr>
<td><strong>Education (%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;High school</td>
<td>4.5</td>
<td>0.0</td>
</tr>
<tr>
<td>High school or GED</td>
<td>28.8</td>
<td>40.3</td>
</tr>
<tr>
<td>Some college</td>
<td>36.1</td>
<td>44.2</td>
</tr>
<tr>
<td>College or higher</td>
<td>30.6</td>
<td>15.6</td>
</tr>
<tr>
<td><strong>Employment status (%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full time</td>
<td>78.3</td>
<td>84.0</td>
</tr>
<tr>
<td>Part time</td>
<td>6.4</td>
<td>3.7</td>
</tr>
<tr>
<td>Not working</td>
<td>15.4</td>
<td>12.4</td>
</tr>
<tr>
<td><strong>Marital status (%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>44.7</td>
<td>32.1</td>
</tr>
<tr>
<td>Unmarried</td>
<td>55.3</td>
<td>67.9</td>
</tr>
<tr>
<td><strong>Income (%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;20K</td>
<td>8.6</td>
<td>5.1</td>
</tr>
<tr>
<td>20–40k</td>
<td>27.9</td>
<td>30.8</td>
</tr>
<tr>
<td>40–80</td>
<td>39.9</td>
<td>48.7</td>
</tr>
<tr>
<td>80–100k</td>
<td>10.5</td>
<td>5.1</td>
</tr>
<tr>
<td>&gt;100k</td>
<td>13.2</td>
<td>10.3</td>
</tr>
<tr>
<td><strong>F &amp; V intake (mean and SD)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short FFQ&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.1 (2.01)</td>
<td>3.6 (2.1)</td>
</tr>
<tr>
<td>Long FFQ</td>
<td>3.3 (1.90)</td>
<td>3.0 (1.89)</td>
</tr>
<tr>
<td>Composite&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.7 (1.73)</td>
<td>3.3 (1.74)</td>
</tr>
</tbody>
</table>

*SD standard deviation, FFQ Food Frequency Questionnaire, Composite the mean of the short and long FFQ.
*Cohort and dropouts significantly different, p<0.05, based on *t* test for age and F & V intake and chi-square for all other variables.*
Table 6  Process measures by intervention group ($n=423$)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Control group</th>
<th>Experimental group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>($n=215$)</td>
<td>($n=208$)</td>
</tr>
<tr>
<td>Perceived relevance (mean and SD)$^c$</td>
<td>5.50 (1.3)</td>
<td>5.75 (1.3)$^b$</td>
</tr>
<tr>
<td>Program satisfaction (mean and SD)$^c$</td>
<td>8.43 (1.5)</td>
<td>8.65 (1.5)</td>
</tr>
<tr>
<td>Health plan satisfaction ($\Delta$ and SD)</td>
<td>0.54 (1.7)</td>
<td>0.40 (2.0)</td>
</tr>
<tr>
<td>Religious (%) (yes)</td>
<td>18.27</td>
<td>30.65$^a$</td>
</tr>
<tr>
<td>Quotes (%) (yes)</td>
<td>19.02</td>
<td>35.03$^a$</td>
</tr>
<tr>
<td>Measure heart rate (%) (yes)</td>
<td>22.71</td>
<td>31.12$^b$</td>
</tr>
<tr>
<td>Values and goals (%) (yes)</td>
<td>60.10</td>
<td>66.33$^b$</td>
</tr>
<tr>
<td>Setting goals (%) (yes)</td>
<td>79.81</td>
<td>80.90</td>
</tr>
<tr>
<td>Health effects (%) (yes)</td>
<td>84.62</td>
<td>81.73</td>
</tr>
<tr>
<td>Serving size (%) (yes)</td>
<td>91.39</td>
<td>89.85</td>
</tr>
<tr>
<td>More exercise (%) (yes)</td>
<td>71.98</td>
<td>77.78</td>
</tr>
<tr>
<td>Importance (%) (yes)</td>
<td>89.05</td>
<td>90.95</td>
</tr>
</tbody>
</table>

$SD$ standard deviation

$^a p<0.01$ for between-group comparison

$^b p=0.06$ for between-group comparison

$^c$ Measured posttest only

$\Delta =$ Change score from baseline
Motivational Predisposition

- "In general, when it comes to my health I would rather an expert just tell me what I should do".

1 2 3 4 5 6 7
Strongly Disagree  Strongly Agree
Conclusions & Future Directions

- Elucidate who responds to this style and why?
  - Sociodemographic
  - Race/Culture
  - Personality
- fMRI studies of mechanism
- AI-based feedback & reflection