

Respondent-Specific Coding Guidelines

Developed to Resolve Missing
Information on 4-Day Food Records

Contributors

National Cancer Institute (NCI)

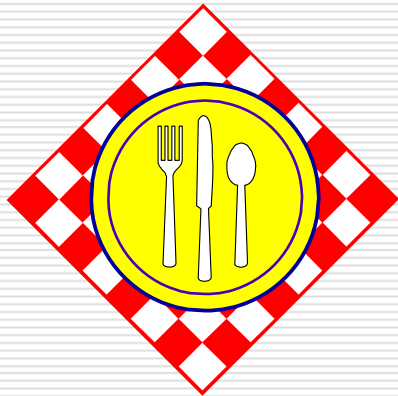
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Re-contacting Participants in the OPEN*
Study
(Re-OPEN)



*Observing Protein and Energy Nutrition

Background

OPEN Study*

Purpose: assess dietary measurement error for energy and protein comparing FFQ/24HR to two biomarkers

Demographics:

- ❑ N=484 men/women
- ❑ 40-69yo
- ❑ predominately White
- ❑ highly educated
- ❑ resided in Montgomery County, Maryland

Results: significant underreporting on both FFQ and 24HR

* Subar A, et al, Using intake biomarkers to evaluate the extend of dietary misreporting in a large sample of adults: The OPEN study. AJE 2003; 158(1)1-13.

Background

Re-OPEN Study

- N=384 OPEN participants
 - DHQ
 - **4DFR x 2**
 - 7DFL
 - PAQ
-

Objective

Coding Sub-study

To determine differences in nutrients with and w/o coding responses to **General Questions** on the food record.

Materials

4-Day Food Record

- ❑ Developed by Fred Hutchinson Cancer Research Center

 - ❑ 'General Questions' that R completed
 - *Added Fat*
 - *Type Fat*
-



Materials

Added Fat Questions

Add to Bread/Coffee

1. When you eat breads and rolls, how often do you add butter or margarine?
2. How often do you use milk or cream in coffee or tea?

Vegetables

3. When you cook vegetables, how often do you add oil, margarine, or butter?
4. When you eat vegetables, how often do you add oil, butter or margarine at the table?
5. When you eat potatoes, how often do you use butter, margarine, or sour cream?

Chicken/turkey Skin

6. When you eat chicken or turkey, how often do you eat the skin?

Response: Usually/Always; Sometimes; Rarely/Never

Materials

Type Fat Question

What type of milk, spreads and cooking oils do you usually use?

1. Milk

- Whole
- 2%
- 1%
- skim
- Didn't use

2. Margarine

- Regular
- Diet/low fat
- Fat free
- Spray
- Didn't use

3. Real Butter

- Regular
- Light
- Didn't use

4. Salad dressing

- Regular
- Diet/low fat
- Fat free
- Didn't use

5. Oil

- Canola oil
- Corn oil
- Olive oil
- Soybean oil
- Other oil
- Didn't use

6. Mayonnaise

- Regular
 - Low fat
 - Fat free
 - Didn't use
-

Methods

Coding Protocol

- ❑ 1st –flagged records that needed recoding based on General Questions
 - ❑ 2nd – Original coding
 - ❑ 3rd – Re-coding
 - ❑ UT FIAS 3.99 supported by the CSFII nutrient database.
-

Methods

Original Coding

Used standard coding guidelines for missing information

- Milk NFS
 - Salad dressing NFS
 - Butter NFS
 - Margarine NFS
 - Chicken/turkey NS as to skin
 - Vegetables NS as to fat added in cooking
-

Methods

Recoding - *Added Fat Questions*

General Question	Recorded in FR		
When you eat breads and rolls, how often do you add butter or margarine?	Always	Sometimes	Never
Usually/Always	Code FR	Code FR	Fat CGL*
Sometimes	Code FR	Code FR	Special CGL**
Rarely/Never	Code FR	Code FR	Code FR

**example: code 1/2 Tbsp butter/margarine per slice of bread. (USDA)*

*** Add fat to every other mention of the food. For even numbered IDs add to 1st mention; for odd numbered IDs add to 2nd mention.*

Methods

Recoding - *Type Fat Questions*

- Used to assign a specific food code to milk, margarine, real butter, salad dressing, oil, mayonnaise.

 - Created composite fats
 - Regular butter + Regular margarine
 - Olive oil + Regular butter
 - Regular butter + Sour cream
-

Preliminary Results

Coded **316** 4DFR

Recoded....

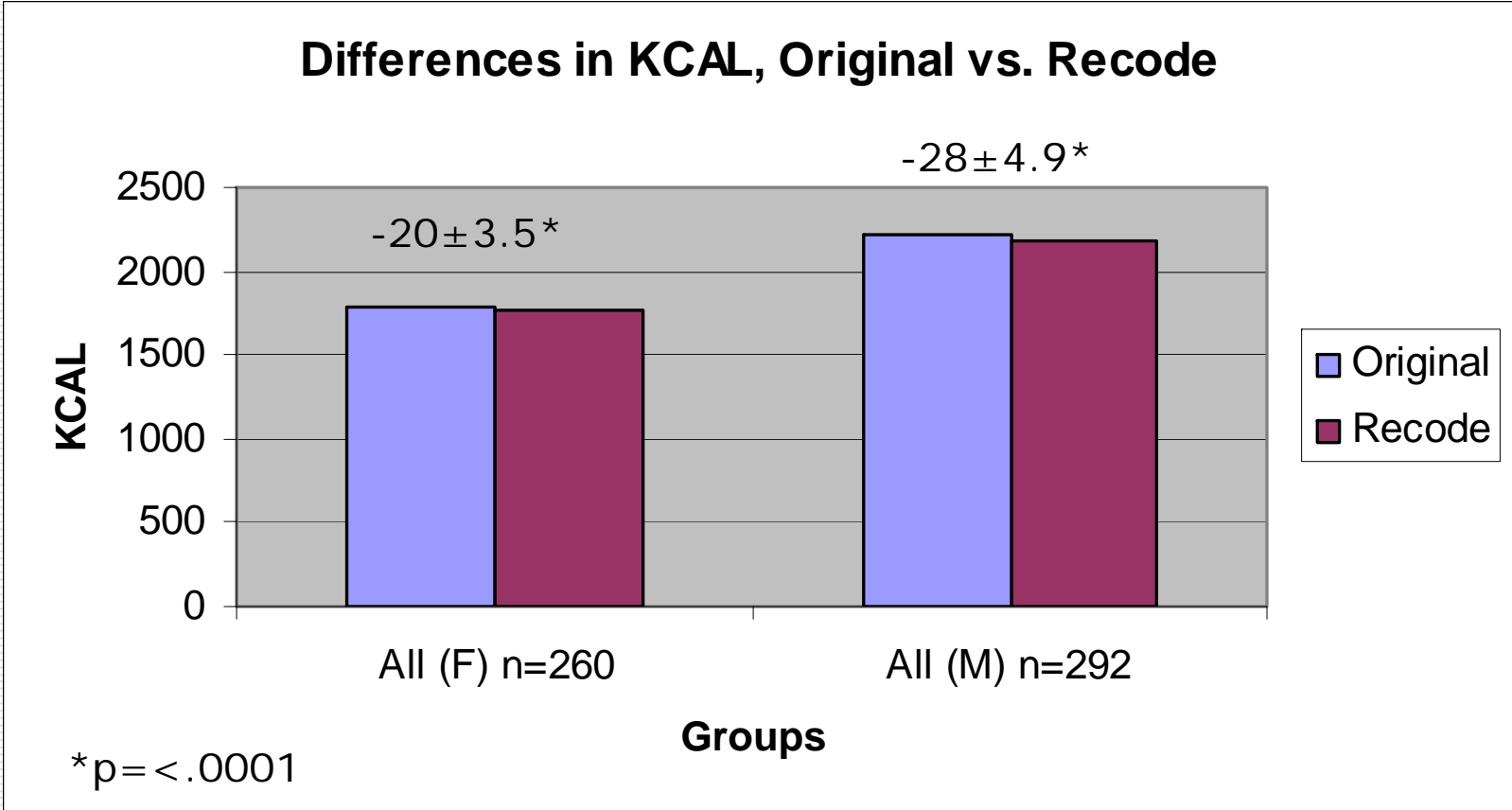
- **260** records (1040 days) (82%)
 - **552** days (53%)
 - **1,112** foods
 - **249** different foods
-

Preliminary Results

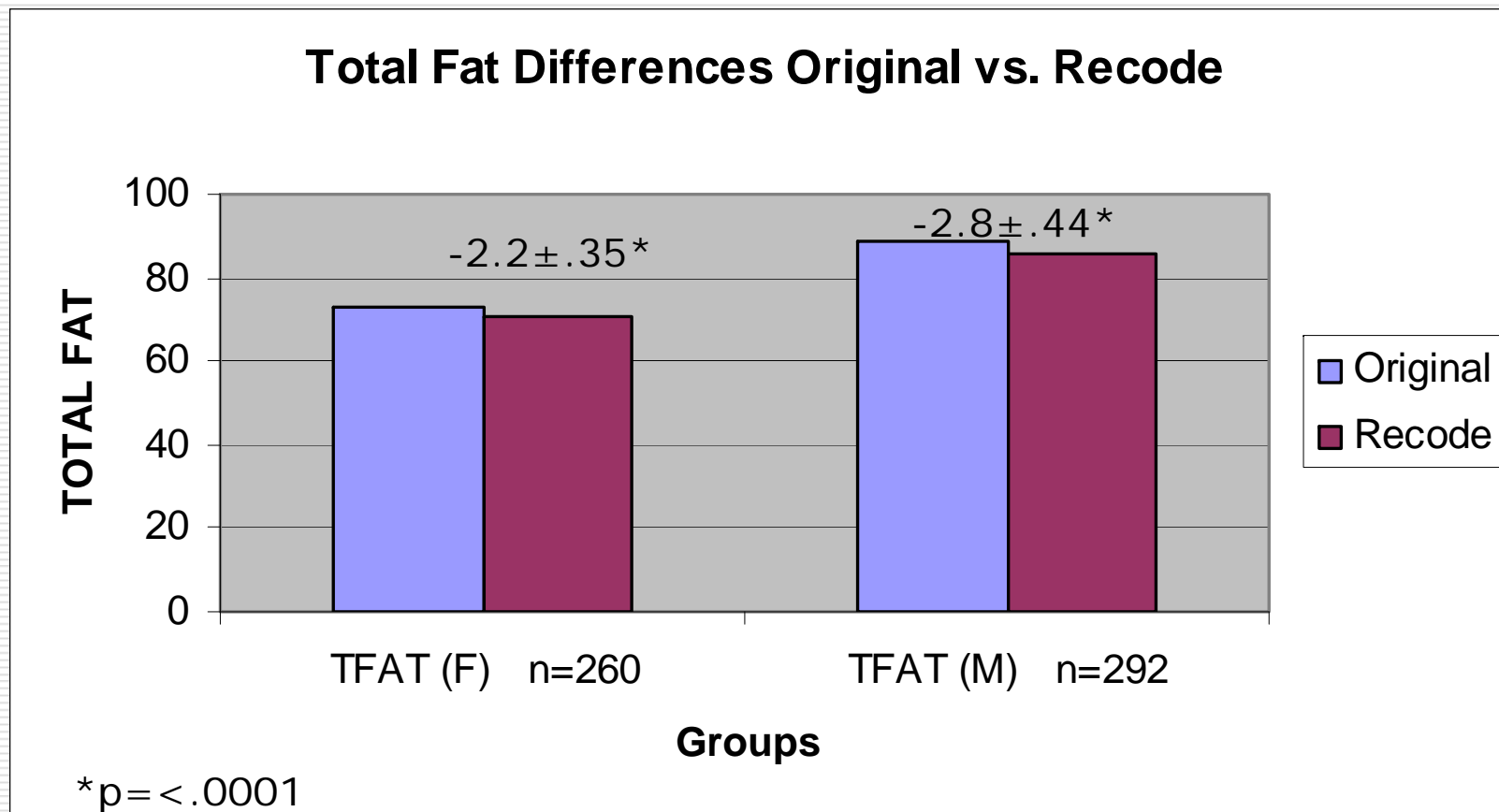
Most commonly recoded foods

- Cooked vegetables
 - Chicken/Turkey
 - Milk
-

Preliminary Results



Preliminary Results



Why Decrease?

Original coding – NS and NFS codes generally assume fat

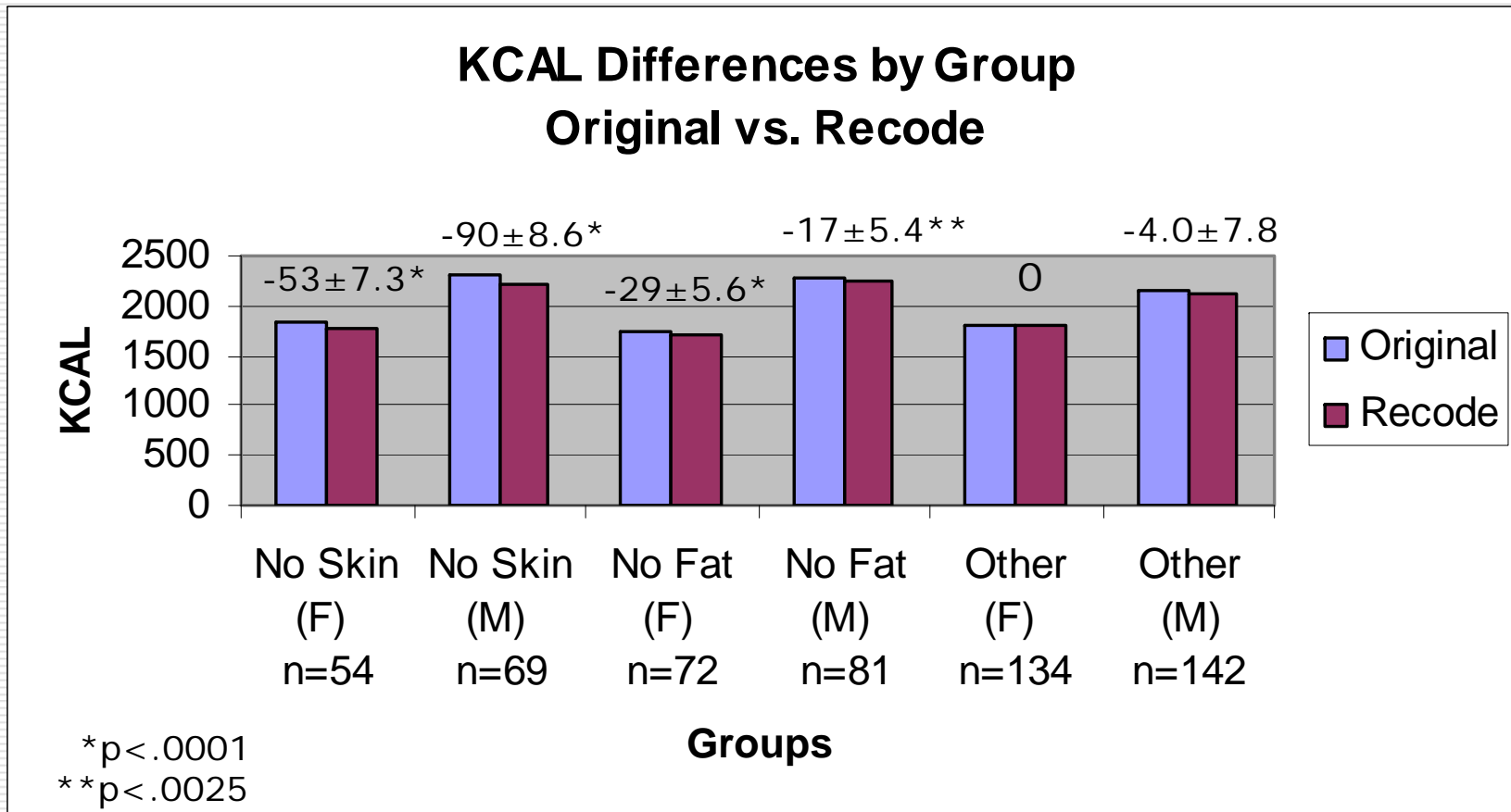
Food R Recorded	Code Applied	Code Description
Cooked vegetables	NS as to fat added	Assume cooked in fat
Milk	Milk NFS	Composite of 4 milks ~ 2%
Chicken/turkey	NS as to skin	Assume skin eaten
Salad dressing	Salad dressing NFS	Regular fat dressing
Margarine	Margarine NFS	Margarine-like spread, 60% fat
Real butter	Butter NFS	Butter

Preliminary Results

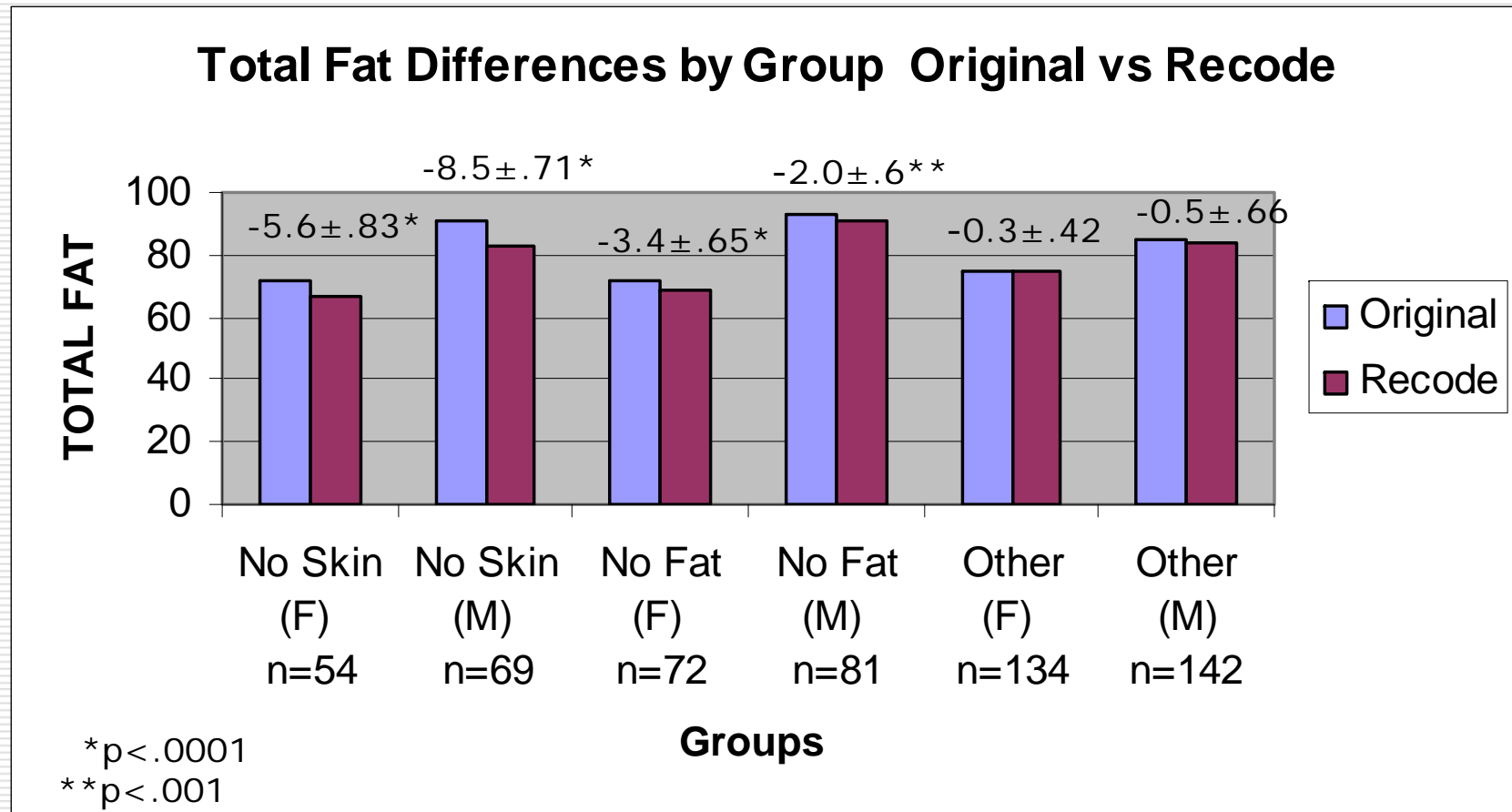
Divided into 3 groups:

- Recode NO SKIN
 - Recode NO FAT in vegetables
 - Recode OTHER
-

Preliminary Results



Preliminary Results



Preliminary Results

BEST PREDICTORS OF RECODE				
Reason Recodes	KCAL		TFAT	
	Male	Female	Male	Female
NoSkin	-82±12*	-54±8*	-8.1±1*	-5.9±.8*
MilkSkim	0	-40±13**	0	-4.3±1.3**
MilkWhole	6±24	-3±16	1.8±2.1	-.2±1.7
Milk1%	6±23	-15±16	1.3±1.2	-1.9±1.6
Milk2%	6±15	-16±14	-.16±1.3	-1.8±1.4
DietDressing	-44±43	-29±34	-6.1±3.7	-5.6±3.5
VegNoFat	-20±11	-46±7*	-2.4±.9***	-4.7±.7*
AddedFoods	44±10*	36±7*	4.0±.8*	3.3±.7*
Misc	-24±16	-30±10**	-3.3±1.4	-3.4±1.1**

*p<.0001 **P<.002 ***p<.01

Summary

- ❑ Recoded days were significantly different from original coding (n=552)
 - ❑ The change was downward for affected nutrients
 - ❑ Recoding chicken/turkey to 'skin not eaten' had greatest effect on nutrients
 - ❑ *NoSkin* and *AddedFoods* are good predictors of recoding
-

Discussion

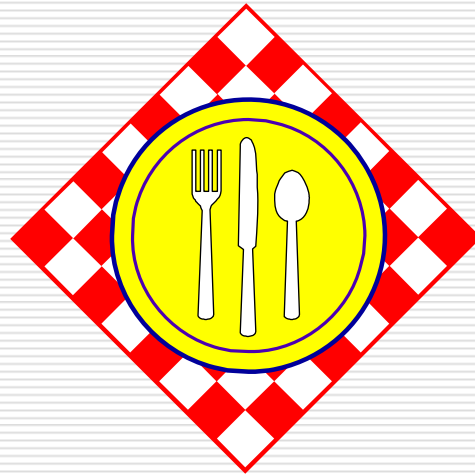
- Are the General Questions useful?

 - Are the results real?
 - Bias?
 - General Question guidelines too stringent?
 - Standard Coding guidelines representative?
-

Significance

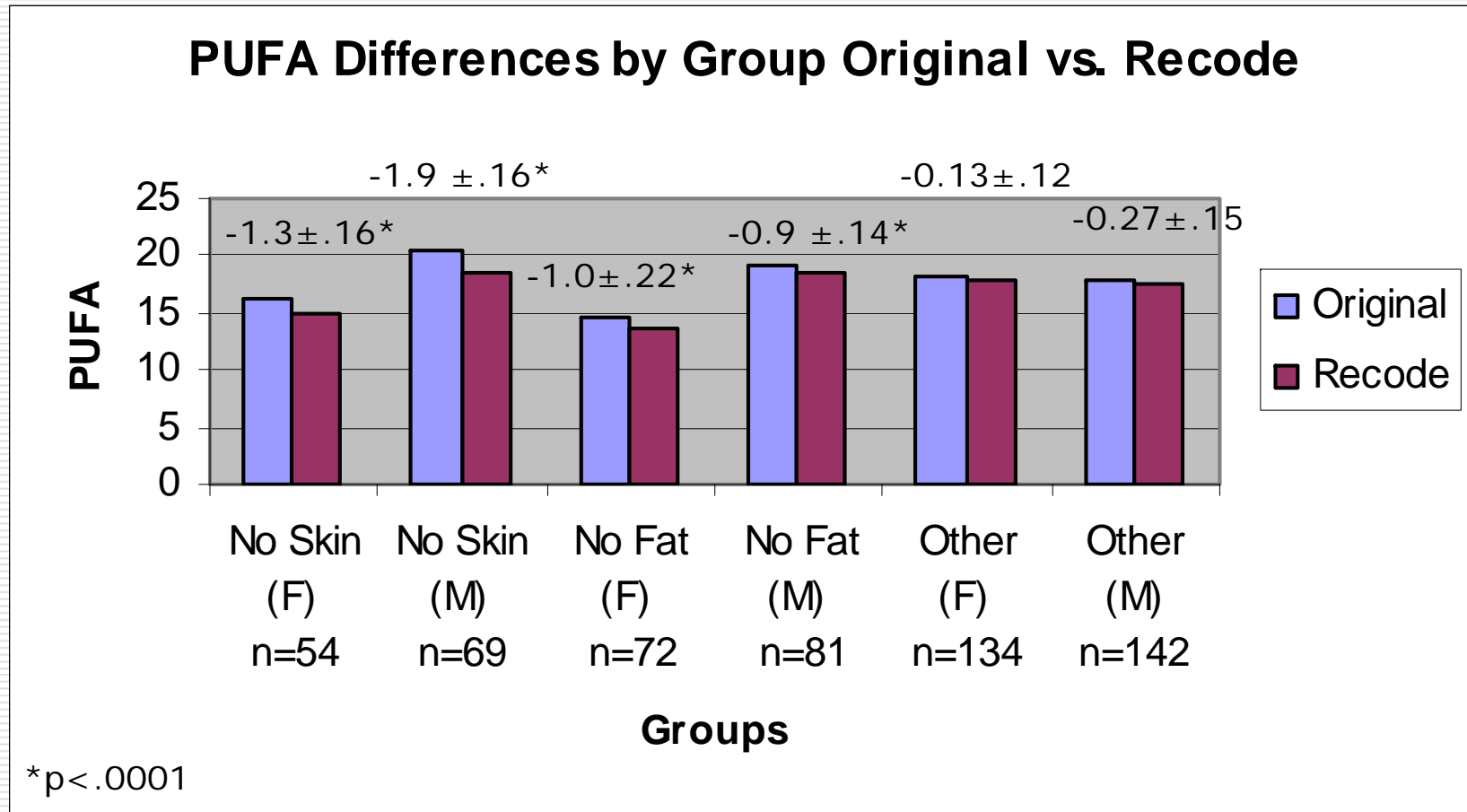
General questions have the potential to reduce respondent burden.

Respondent-Specific Coding Guidelines



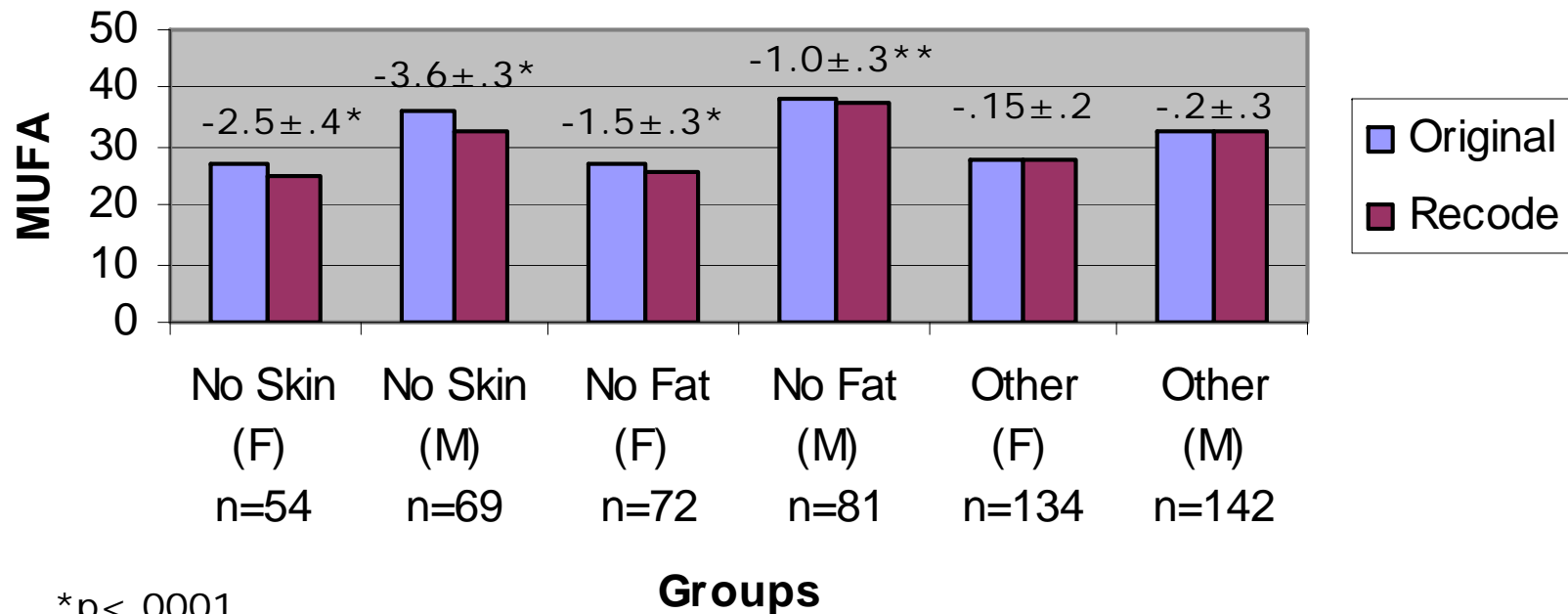
Thank you

Preliminary Results



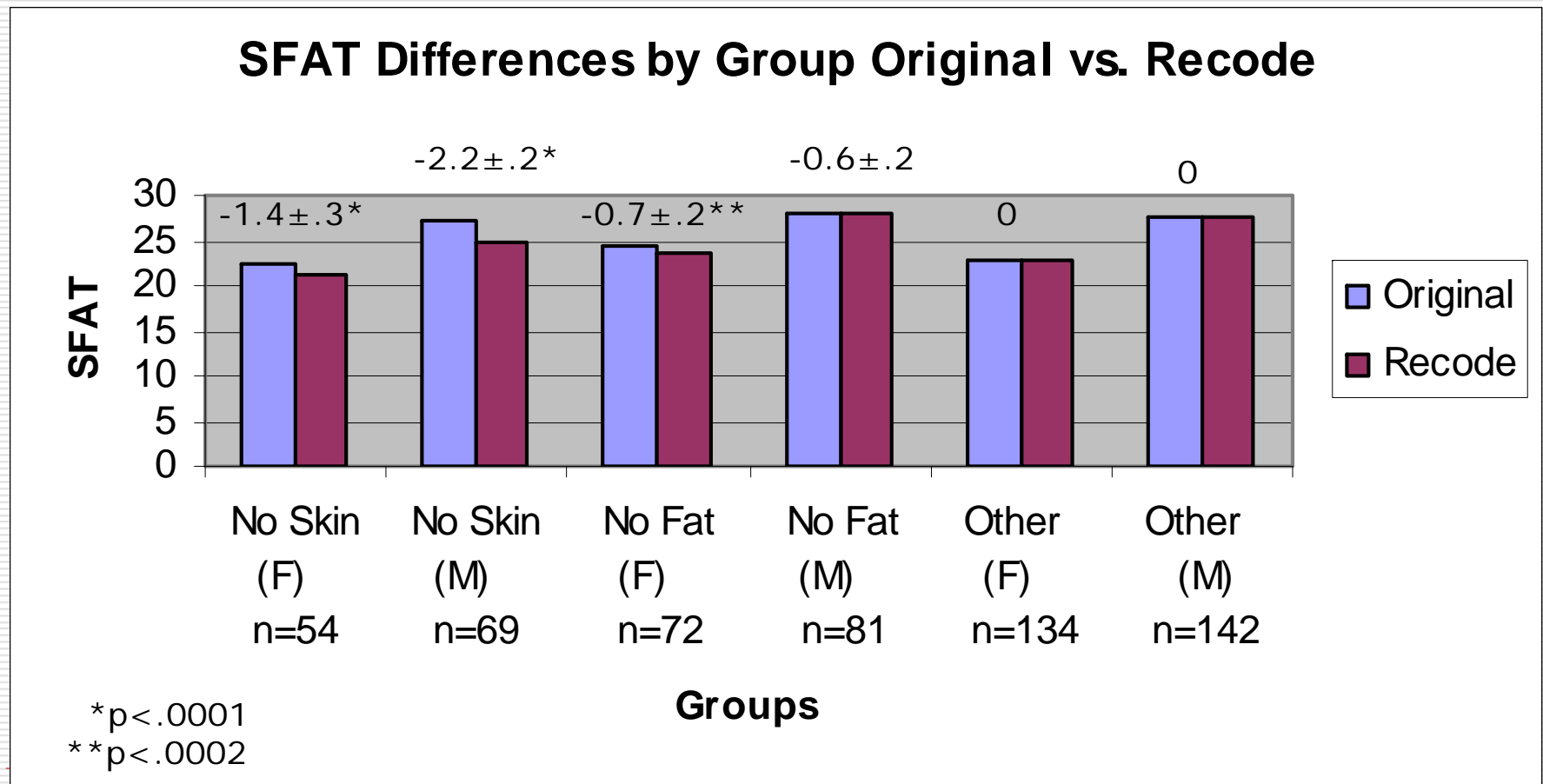
Preliminary Results

MUFA Differences by Group Original vs. Recode



*p < .0001
**p < .0003

Preliminary Results



Preliminary Results

