Got DietDay?

A Novel Tablet based Approach to Assessing What People Eat

Lenore Arab, Professor
UCLA David Geffen School of Medicine
Outline:

• Why Dietary Assessment Matters
• Why are we still struggling with Methods
• Our Web based 24-Hour Recalls “DietDayII”
• The Energetics Study Findings
The Question:

Why would NIH spend $2.5 million dollars to validate dietary assessment tools?
Frances Collins
Head, National Human Genome Research Institute, now Director NCI

Says he used to believe that we could understand disease by comparing the genetics of those afflicted and those spared...

until CopyCat took him by surprise
“A year later, Cloned Cat (with identical DNA) is no CopyCat”

Rainbow the cat is a typical calico with splotches of brown, tan and gold on white.

Cc, her clone, has a striped gray coat over white.

Rainbow is reserved. Cc is curious and playful.

Rainbow is chunky. Cc is sleek.

Therefore genes alone do not tell the whole story, environment must influence their expression.
1) Diet influences genetic expression (Nutrigenomics) thus the GEI Initiative of the National Human Genome Institute and NIEHS

2) Diet affects metabolism, and the etiology and progression of disease

3) Accurate measurement needed in human studies (clinical and epidemiologic) to study the relationship of diet to disease

4) *Widely used methods proven to be fatally flawed*
Dietary Assessment Choices

- Prospective Methods:
  - weighed Dietary Records (7 days)
  - duplicate portion methods
- Retrospective Methods
  - multiple 24-hour recalls
  - Diet History
  - Food Frequency Questionnaire
- Biomarkers
Study Design: *Energetics Study*

- Study of 250 African Americans and Caucasians
- Involves conducting 8 Recalls, 2 Diet Histories, 1 Food Frequency
- Recovery Biomarkers (DLW and Urinary Nitrogen)
- Repeat Study in a subset of 60 people 6 months later
- *This is the only DLW study that is non-white and the only one conducted among ‘younger people’*
Energetics Population Characteristics

**Gender:**
- Female: 65%
- Male: 35.22%

**Race:**
- Caucasian: 49%
- African-American: 51%

**Education:**
- 57% college educated

**Age:**
- <30: 39%
- 30-39: 18%
- 40-49: 19%
- 50-59: 19%
- 60-69: 4%
### Energetics Population Characteristics

<table>
<thead>
<tr>
<th>Body Mass Index Status</th>
<th>Range</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under weight</td>
<td>&lt; 18.5</td>
<td>2.8</td>
</tr>
<tr>
<td>Normal weight</td>
<td>8.5 - 24.9</td>
<td>43.3</td>
</tr>
<tr>
<td>Overweight</td>
<td>25.0 - 29.9</td>
<td>29.6</td>
</tr>
<tr>
<td>Obese</td>
<td>&gt;= 30</td>
<td>24.3</td>
</tr>
</tbody>
</table>
Eight self administered 24 hr recalls
Features of DietDay

- CASI
- Over 5000 food images
- Portions sizes changed by subject
- Many ethnic food modules
  - (Chinese, French, Italian, Southern Foods)
- No Interviewer Bias
- Over 8000 foods in the nutrient database
- Captures Nutritional Supplement Use
- Self interview (no personnel costs)
- Real-time feedback to subjects and scientists
- Compares Intake to NAS Recommendations
DietDay Program

61 Different Modules for Foods, Beverages and Supplements such as:

- Fast Foods (321 foods)
- American (195)
- Chinese (77)
- Japanese (33)
- Indian (40)
- Mexican (44)
- Meat (1735)
- Southern (1414)
- Vegetables (896)
- newly added: Korean, Thai, Asian Fusion

- 8694 Foods in total 104 Nutrients in research files
Welcome to DietDay!
Your Bridge to Nutritional Fitness

Our program is designed to assist you and your physician and nephrologist to easily and effectively manage diet to lower the stress your kidneys and prevent kidney damage.
Welcome to DietDay!

We take nutrition seriously- the most comprehensive and the only validated nutrient analysis available. Know where you stand, where your diet falls short from the expert recommendations and start your nutritional tracking.

Our program is designed to assist you and your physician and nephrologist to easily and effectively manage diet to lower the stress your kidneys and prevent kidney damage.

Our Mission: To provide the most comprehensive, high quality assessment of vitamin and mineral, supplement and food nutrient intake in a user friendly fashion.
Welcome to the Diet Day Program!

This tool will allow you to record your daily diet within the 24 hours period for Breakfast, Lunch, Dinner, Beverages and Daily Supplements. You will also have the ability to generate reports that indicate your intake of Vitamins, Minerals, Fat, Antioxidants, Energy and Cholesterol.

This program features:

- Complete and Quantitative Assessment of Habitual Diet
- Meal-based Cognitive Support
- Thousands of Food Images
- Complex embedded Skip Routines
- Portion Size selection based on changing food sizes on plate
- Ethnic Food Modules (Chinese, French, Italian...)
- No Interviewer Bias
- Extensive Nutrient Database on over 6000 foods
- Self interview with no personal costs
- Immediate feedback to Subjects and Researchers

Our Mission: To provide the most comprehensive, high quality assessment of vitamin and mineral, supplement and food nutrient intake in a user friendly fashion.
Nick's diet for Sunday 4/28/2013 (Yesterday)

Meal Time Selection:
- Breakfast
- Lunch
- Dinner

Message Center:
You said you ate between midnight - 11:00 am. Select your food group. Don't forget to select Snacks if you ate snacks during this time period.

Breakfast: Midnight - 11:00 am

Food Group Selection:
- Cheerios
- cold cereal
- hot cereal
- fast food
- sandwiches and pastas / rice / gnocchi
- vegetables
- American mixed and Southern Foods
- breads
- potatoes / sweet potatoes
- poultry
- meats
- fish
- eggs
- soups
- salads

Make your selection from the list to begin. Use the Blue tags above to select a different category. Click Summary to view progress.

Current Time: 04:03 PM

Make your selection to record your diet or click Summary to view meal time report.
Account Status

Name: Nick Pan

Your Referral Code / Study Group:
(To enroll in a different Study Group, click the "down" arrow.)
MYFOODSTUDY - MyFoods Study

Membership Type: Administrator

You have permission to access Administration portal.

Diet Report Credits:
Allotted: 20  Used: 10  Remaining: 10


Days of Nutrients Recorded: 134

Welcome back, Nick.

Click on "DietDay" if you are ready to start a new 24 Hour Recall or make changes and additions.

Click on "Activity Chart" if you need to record your daily activities.

Click on "Profile" if you need to update any personal information.

Click on "Diet Report" if you would like to view your dietary data.

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Nick's diet for Sunday 4/28/2013 (Yesterday)

Meal Time Selection:
- Breakfast
- Lunch
- Dinner

Message Center
You said you ate **cold cereal** between midnight to 11:00 am. Select the kind of cold cereal you ate.

Food Selection: cold cereal

Options:
- Frosted Flakes
- Corn Flakes
- Kellogg's Two Scoops Raisin Bran
- The Original Shredded Wheat Spoon Size
- Mini Wheats
- Cheerio
- Rice Crispies
- Cocoa Pebbles
- Multi Bran Chex
- Grape Nuts
- Total
- 100% Natural Raisin & Almond Crunch Müesli
- Froot Loops
- chocolate-flavored
- multi-grain cereal
- high-fiber cereal
- total
- granola
- muesli
- sweetened fruit

Make your selection to continue. If your food is not listed, click Go Back to return or select a different category using the above Blue tags.
Nick’s diet for Sunday 4/28/2013 (Yesterday)

Meal Time Selection:
- Breakfast
- Lunch
- Dinner

Message Center
You said you ate sweetened flakes between midnight to 11:00 am. Select the correct amount you ate by clicking the MORE or LESS arrows.

![Cereal Image](image)

<table>
<thead>
<tr>
<th>Portion Selection: sweetened flakes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basic nutrition facts per 100 grams:</strong></td>
</tr>
<tr>
<td>Total Fat: 0.3 g</td>
</tr>
<tr>
<td>Cholesterol: 0 mg</td>
</tr>
<tr>
<td>Sodium: 462 mg</td>
</tr>
<tr>
<td>Dietary Fiber: 1.8 g</td>
</tr>
<tr>
<td>Protein: 4.4 g</td>
</tr>
<tr>
<td>Vitamin A: 589 mcg</td>
</tr>
<tr>
<td>Vitamin C: 26.7 mg</td>
</tr>
<tr>
<td>Calcium: 3 mg</td>
</tr>
<tr>
<td>Iron: 23.5 mg</td>
</tr>
<tr>
<td><strong>Note:</strong> Actual calculation varies by portion and servings.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How much of this did you eat?</th>
<th>How many servings of this did you eat?</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Portion Selection" /></td>
<td><img src="image" alt="Selection Options" /></td>
</tr>
<tr>
<td>1.42 oz</td>
<td>40 grams</td>
</tr>
<tr>
<td><strong>Click</strong> if this is not the correct item to save to your record.</td>
<td><strong>Cancel</strong></td>
</tr>
</tbody>
</table>
Nick’s diet for Sunday 4/28/2013 (Yesterday)

Meal Time Selection:
- Breakfast
- Lunch
- Dinner

Message Center
You said you ate sweetened flakes between midnight to 11:00 am. What did you add to this cereal?

Tools:
- Search
- Fast Track

Toppings Selection: sweetened flakes

- Sugar
- Raisins
- Nuts
- Dried fruit
- Fresh fruit
- Marshmallows
- Wheat germ
- Bran
- None
- Flax seed

Click Save after you make your selection on all green tabs.
You said you ate **sweetened flakes** between midnight to 11:00 am. What liquids did you put in your cereal?

Make your selection from the list. Use the Green tags to view all options. Click **Save** after you finished recording an item.
Nick's diet for Sunday 4/28/2013 (Yesterday)

Meal Time Selection:
- Breakfast
- Lunch
- Dinner

Message Center
Here is your Breakfast Summary Report between midnight to 11:00 am. Make any necessary changes by clicking on the Edit button, or select the Diet Report button on top to view your nutrient report.

Breakfast: Midnight - 11:00 am

Sunday 4/28/2013

If you want to add any forgotten items, click the Add button or select a meal time from the top.

ADD

Make your selection from below to view different meal time summary.
- Breakfast Summary
- Lunch Summary
- Dinner Summary

Caloric Intake in Morning (Midnight - 11:00 am): 229 kcal/day
Nick's diet for Sunday 4/28/2013 (Yesterday)

Search

Type in a name of food, beverage or supplement:

If you want to add any forgotten items, click the Add button or select a meal time from the top.

ADD

Make your selection from below to view different meal time summary.

Breakfast Summary
Lunch Summary
Dinner Summary

Total Item(s): 1

Caloric Intake in Morning (Midnight - 11:00 am): 229 kcal/day

Please make your selection.
Nick's diet for Sunday 4/28/2013 (Yesterday)

Message Center
Here is your Breakfast Summary Report between midnight to 11:00 am. Make any necessary changes by clicking on the Edit button, or select the Diet Report button on top to view your nutrient report.

Breakfast: Midnight - 11:00 am

Fast Track Meal
Customize pre-recorded diet for speedy daily entry.

Add this item to one of the following Fast Track meal:

- GENERAL (Default Fast Track Meal List)
- BURGER (Burger)
- ABC (abc meal)
- FAST

sweetened flakes

Or create a new Fast Track meal and add this item.

Fast Track Name:
Description:

Total Item(s): 1
Caloric Intake in Morning (Midnight - 11:00 am): 229 kcal/day

Current Time: 04:06 PM
Please make your selection.
Introduction

Report Period
From: 4/28/2013
To: 4/28/2013
Click on the Calendar Icon next to date fields to select a different report period.

Days of Nutrients Found: 1

Nick’s Personal Diet Report

Please note:
Your dietary report is defaulted to the most recent date you recorded your daily intake.
For accurate dietary information, please select a period more than one day.

Tips for generating reports:
To generate reports within a period, select a report period by clicking the "Calendar" icons next to the date fields on the "Report Period" area. The "Days of Nutrients Found" field will be updated to reflect number of days you have recorded your intake. If the "Days of Nutrients Found" is reporting zero, the reports will be reporting zero intake for the selected report period.
To start recording your 24 hour recall, simply click on the "DietDay" button on the top navigation bar.

Select a report topic which interests you.
The following information is based on your intakes on 4/28/2013.

<table>
<thead>
<tr>
<th>Total calories for the Day: 4/28/2013</th>
<th>Your Intake (kcal/day)</th>
<th>Recommended (kcal/day)</th>
<th>% Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>229</td>
<td>2502</td>
<td>91</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Calories In Morning:</th>
<th>Your Intake (kcal/day)</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories In Afternoon:</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Calories In Evening:</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Calories from Beverages throughout the Day:</td>
<td>74</td>
<td>32</td>
</tr>
</tbody>
</table>

These are the calories you reported as snacks.

<table>
<thead>
<tr>
<th>Calories from Morning Snacks:</th>
<th>Your Intake (kcal/day)</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories from Afternoon Snacks:</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Calories from Evening Snacks:</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Calories from Snacks in Total:</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

These are the average dietary energy intakes predicted by the National Academy of Sciences as appropriate to maintain energy balance in a healthy adult at a sedentary level of activity. Greater energy is needed if there is a greater expenditure through physical activity, or through pregnancy and lactation.
### Energy Report

#### Recommended Intake Compared to Your Intake

<table>
<thead>
<tr>
<th>Macronutrient</th>
<th>Recommended (g/day)</th>
<th>Your Intake (g/day)</th>
<th>Your Intake (% of calories from Macronutrient)</th>
<th>Recommended Range of % calories from Macronutrient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbohydrate</td>
<td>100 130</td>
<td>42.10</td>
<td>74.03</td>
<td>45 - 65</td>
</tr>
<tr>
<td>Total Fiber</td>
<td>- -</td>
<td>38</td>
<td>0.72</td>
<td>-</td>
</tr>
<tr>
<td>Protein</td>
<td>55.19 66.9</td>
<td>5.58</td>
<td>9.79</td>
<td>10 - 30</td>
</tr>
<tr>
<td>Total Fat</td>
<td>- -</td>
<td>4.09</td>
<td>16.18</td>
<td>25 - 35</td>
</tr>
<tr>
<td>Total Energy (kcal/day)</td>
<td>227.9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Color Coding:
- **Red**: Your intake definitely needs improvement
- **Yellow**: Your intake could use improvement
- **Green**: Your intake is adequate
- **Orange**: Your intake is excessive

---

2. **EAR** = stands for Estimated Average Requirement and is the nutrient intake estimate to be adequate for half (50%) of the healthy individuals in a particular life stage and gender group.
Your intake of 10.68 mg/day is lower than the recommended 90 mg/day.

The items that added most are:
- sweetened flakes, breakfast on 4/28/2013

Other good food sources are oranges, strawberries, broccoli, and grapefruit.

Your intake of 0.12 mg/day is lower than the recommended 15 mg/day.

The items that added most are:
- whole milk, breakfast on 4/28/2013
- sweetened flakes, breakfast on 4/28/2013

Other good food sources are fish, oils, nuts, and margarine.

Your intake of alpha carotene is 13.6 ug. Although there is no recommendation for this nutrient, evidence suggests consumption of carotenoids is associated with lower risk of several chronic
Low Nutrients Report

Vitamin A (ug RE)

The recommended amount is 900 ug, you are getting 291.7 ug from your diet.

The items that added most are:
- sweetened flakes, breakfast on 4/28/2013
- whole milk, breakfast on 4/28/2013

Good food sources are carrots, tomatoes, sweet potatoes, green leafy vegetables and eggs.

Vitamin D (ug)

The recommended amount is 5 ug, you are getting 2.8 ug from your diet.

The items that added most are:
- whole milk, breakfast on 4/28/2013
- sweetened flakes, breakfast on 4/28/2013

Good food sources are fish, fish oil, eggs and milk.

Vitamin E (mg)

The recommended amount is 15 mg, you are getting 0.1 mg from your diet.

The items that added most are:
- whole milk, breakfast on 4/28/2013
**Caffeine (mg)**

Your intake was 0 mg. Currently, there is no recommendation to limit caffeine consumption and no adverse affects from moderate intake (less than 250 mg per day). However, there is evidence to suggest excess caffeine intake potentially affects bone health. This effect is enhanced when dietary calcium intake is inadequate.

The items that added most are:

**Food Sources**
- Coffee (regular and decaffeinated); Cappuccino; tea leaves/tea; cocoa; colas and many other carbonated beverages; chocolate; frozen desserts and yogurt (coffee and chocolate).

**Reference**

**Dietary Fiber (g)**

Your intake was 0.72 g. The recommended intake is a minimum of 20-35 grams per day. Benefits of fiber include health maintenance and disease prevention.

The items that added most are:
- Sweetened flakes, breakfast on 4/28/2013

**Food Sources**
- Fruits, vegetables, grains (breads, cereals) and legumes.

**Reference**
Nick’s diet report.

**Kidney Health Report**

**Report Period**
- From: 4/28/2013
- To: 4/28/2013

Click on the Calendar Icon next to date fields to select a different report period.

**Days of Nutrients Found:** 1

**Goals**
- Sodium (g/d): <2.3g/d
- Potassium (g/d): <2.4g/d
- Phosphorous (g/d): <0.9g/d
- Protein (g/kg/d): <0.8g/kg/d
- Calorie Intake (kcal/d): <2502 kcal/d
- Carb (%kcal): <55% kcal
- Fat (%kcal): <30% kcal
- Sat. Fat (%kcal): <10% kcal
- Cholesterol (mg/d): <200 mg/d

**Click HERE to view and print Patient Feedback.**

To print the above bar chart, click the “Print” button.

Click on the name of each element in the above chart to view and print a pie chart showing the proportional contribution of each food to the total amount of the element consumed for the reported period.
Good news! You have met 5 of 9 recommendations.

**Need Improvement:**  
(Click on each element from below to view detailed information.)

**Protein**
- **My goal:** Less than 0.8 g/kg/d
- **My intake:** 0.1 g/kg/d

*too little increases your risk of malnutrition*

Here are some general tips on how to increase your **protein** by 87%:

- Your body needs protein to build muscle, repair itself, and fight infections.
- If your dietary protein is regularly low, talk to your provider about how to safely increase your dietary protein.

*Find out what you need to reduce to meet your goal. Click here to view the ______ protein ______ breakdown of your diet.*
Nick's diet report.

Kidney Health Report

Report Period
From: 4/28/2013
To: 4/28/2013

Click on the Calendar Icon next to date fields to select a different report period.

Days of Nutrients Found: 1

Protein by Food

68.9% - whole milk
31.1% - sweetened flakes

Roll mouse cursor over chart for information.
Nick's activities for Sunday 4/28/2013 (Yesterday)

**Physical Activities Assessment**

Select the time to add your physical activities or click ![Report Icon](image) to view report.

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 am</td>
<td>Bicycling (5.5 mph) (30 minutes)</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>Dance (Aerobic) (30 minutes)</td>
</tr>
</tbody>
</table>

Click the Home button to return after recording your activities.
Nick's activities for Sunday 4/28/2013 (Yesterday)

Physical Activities Assessment

Time: 9:00 am to 10:00 am

What types of activities did you perform during this time period?

- Bicycling (5.5 mph) for 30 minutes
- Bicycling (9.5 mph) for 0 minutes
- Climbing Hills (no load) for 0 minutes
- Climbing Hills (with load) for 0 minutes
- Dance (Aerobic) for 0 minutes
- Dance (Ballroom) for 0 minutes
- Elliptical Machine (intense) for 0 minutes
- Elliptical Machine (moderate) for 0 minutes
- Jogging for 0 minutes
- Jumping Rope for 0 minutes
Physical Activities Assessment Report

<table>
<thead>
<tr>
<th>Activity</th>
<th>Minutes of Activity</th>
<th>Total Calories Burned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bicycling (5.5 mph)</td>
<td>30</td>
<td>161</td>
</tr>
<tr>
<td>Dance (Aerobic)</td>
<td>30</td>
<td>256</td>
</tr>
</tbody>
</table>

* This is the average dietary energy intakes predicted by National Academy of Sciences as appropriate to maintain energy balance in a healthy adult at a sedentary level of activity. Greater energy is needed if there is a greater expenditure through physical activity, or through pregnancy and lactation.

Total calories burned for the day (kcal/day): 417

Done
Technical and Human Feasibility

- Is the System Stable and Sturdy?
- Can Subjects gain Access to the Web for Independent Conduct
- Will they Conduct the Method Repeatedly?
- Will they Respond to Impromptu Email Requests to conduct the method?
American Dietetic Association

Original Research

Eight Self-Administered 24-Hour Dietary Recalls Using the Internet Are Feasible in African Americans and Whites: The Energetics Study

LENORE ARAB, PhD, MSc; KATE WESSELING-PERRY, MD; PATRICIA JARDACK, MS, RD; JUDITH HENRY, MSEd; ASHLEY WINTER

<table>
<thead>
<tr>
<th></th>
<th>Total Population</th>
<th>Whites</th>
<th>African Americans</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Easy</td>
<td>Neutral</td>
<td>Difficult</td>
</tr>
<tr>
<td>How difficult was it to conduct 8 repeat DietDays on the Web?</td>
<td>81.0</td>
<td>13.2</td>
<td>5.8</td>
</tr>
</tbody>
</table>
## Feasibility of Repeats

<table>
<thead>
<tr>
<th>N</th>
<th>Number of DietDays</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>203</td>
<td>6 or more</td>
<td>85%</td>
</tr>
<tr>
<td>184</td>
<td>7 or more</td>
<td>78%</td>
</tr>
<tr>
<td>176</td>
<td>8 or more</td>
<td>74%</td>
</tr>
<tr>
<td>31</td>
<td>9 or more</td>
<td>13%</td>
</tr>
<tr>
<td>10</td>
<td>10 or more</td>
<td>4%</td>
</tr>
<tr>
<td>3</td>
<td>11 or more</td>
<td>1%</td>
</tr>
<tr>
<td>1</td>
<td>17 or more</td>
<td>0.42%</td>
</tr>
</tbody>
</table>
Association Between Diet Day Energy Intake and TEE From DLW

correlation = .439
Self Reported Energy in Kcal

- Day 1   2253
- Day 2   2220
- Day 3   2176
- Day 4   2054
- Day 5   1971
- Day 6   1978
Energy Validity Increases With Increasing Numbers of Days

The chart illustrates that as the number of days increases, the energy validity increases. The bars represent the mean values for different numbers of days, with a clear upward trend as the number of days increases from 1 to 8.
Validity by Race: Correlation of Energy Intake with DLW with Increasing Numbers of days Reported

Correlation with TEE

<table>
<thead>
<tr>
<th>Diet Day Reported</th>
<th>Energy Intake</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td></td>
</tr>
<tr>
<td>1st-2nd</td>
<td></td>
</tr>
<tr>
<td>1st-3rd</td>
<td></td>
</tr>
<tr>
<td>1st-4th</td>
<td></td>
</tr>
<tr>
<td>1st-5th</td>
<td></td>
</tr>
<tr>
<td>Mean 1st-6th</td>
<td></td>
</tr>
</tbody>
</table>

- Caucasian
- African-American
Validity by Age: Correlations of Reported Energy Intake with DLW with Increasing Number of Days Reported
Pearson Correlation Coefficients for Mean Reported Dietary Intake and Estimated True Intake by Gender
Can we do Dietary Assessment using the Web?

- Yes- for Los Angelinos – both African American & Caucasian
- Younger more so than Older
- Women more than Men
Energetics Study Cast of Characters

**Study Manager:** Catie Cambou

**Website:** Harry Hahn
Ed Prentice

**Administration:** Mark Lucas
Rhonda Steele

**Statistics:** Chi Hong Tseng
Weiqing Liu

**GCRC:** Patricia Jardack, Bionutrition core manager
Carolyn Borne, Unit Director
Heather Barber, Assistant Nurse Manager
Laurie Shaker-Irwin, Research Subject Advocate
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