"Let's Get Healthy!" --Engaging Schools, Community and the Workplace in Research and Health Promotion

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Cancer Risk
Skin cancer, lung cancer, and breast cancer risk assessment

Blood Pressure and Chemistry
Blood pressure. For adults: Fingerstick test for glucose, cholesterol, HDL, LDL, triglycerides, other lipids

Diet
Computerized assessment with tailored feedback. Bitter taste sensitivity

Body Composition
Height, weight, waist circumference, body mass index, body fat percentage

Cognitive Function
Computerized assessments of short-term visuospatial memory and attention

Data linked anonymously to each participant by scanning their random wristband barcode

Automatically added to database at OHSU

Schools
Communities
Researchers

What is “Let’s Get Healthy!”?

Epigenetics Education

Genetics
Salivary sample for anonymous DNA

Sleep
Computerized assessment of sleep quality, morningness/eveningness, and daytime sleepiness with tailored feedback

What is ”Let’s Get Healthy!”?
What Makes “Let’s Get Healthy!” Unique

• Highly flexible and able to be tailored
• Education AND data collection
• Capacity to introduce / supplement/ evaluate interventions.
• The sky is the limit
  – Immediate feedback, web capability
• Learning about your health becomes fun

2015 Technology Award Recipient
Society of Public Health Education
Adaptation and Tailoring for Rapid Data Return

- Tailoring Feedback
- Automating Data Entry
- Evaluation Station & Pre/Post Surveys
- Longitudinal follow-up
- Materials have been translated to Spanish, Korean, Vietnamese, Mandarin, and Thai
- Workforce training (900+ to date)

19042 Participants

8554 Males (45%)  
10488 Females (55%)

- “Drag and drop” variables to quickly see relationships between health measures
- Compare how these relationships change with age or gender

Marriott et al. (2012). *Progress in Community Health Partnerships: Research, Education, and Action*, Fall; 6(3):331-7
What do we have to Offer?

Diet Station

Foods For Thought

How’s Your Diet?

Your Diet Matters

Your body functions best when it is fueled properly. Fruits, vegetables, lean meats and beans are all great sources of energy. Watch out for foods high in fat, sugar and salt; they are added to make foods taste better but can lead to serious health problems.

NCI/NHANES 2009-2010 Dietary screener

26 items that calculates intake of fruits & vegetables, added sugars, added sugars from sugar-sweetened beverages, dairy, calcium, whole grains, fiber, red meat and processed meat.

Woodburn Middle Schools

Let's Get Healthy!

Diet

Let’s Get Healthy! visited Valor and French Prairie Middle Schools on October 14th & 17th, 2013 and collected research data from 1,051 Woodburn students. 607 students completed the diet station and their results are shown below.

Daily Fruit & Vegetable Intake

- 5 cups
- 3.5 cups
- 4 cups
- 2.5 cups

Only 32% of Woodburn students meet daily fruit and vegetable recommendations.

Breakfast
- Attached 75% of students decide for themselves what they eat for breakfast.
- 50% of students said that the school decides what they eat for lunch.
- Most students (79%) said that their parents decide what they eat for dinner.

Lunch

Dinner

Woodburn middle-schoolers consume more sugar than recommended!

9 out of 10 Woodburn middle-schoolers consume more sugar than recommended.

Did you know?

- It is recommended that females consume less than 10 teaspoons per day and males consume less than 15.
- Only 13% of students thought that students in their school would meet recommendations for healthy diet.

Over one fourth (29%) of students said they thought their own diet would meet recommendations.

To see more results from your school and others, please visit: http://www.letsgohealthy.org
What do we have to Offer?

Body Composition Station

AVERAGE HEIGHT AND WEIGHT

[6526 of 6526 Participants, Age 1-100 from All exhibits]

5’ 3”

131 lbs

BODY FAT PERCENTAGES

Average: 22.6%

[6523 of 6523 Participants, Age 1-100 from All exhibits]

Underweight: 283 (4.4%)
Healthy: 4063 (62.5%)
Overweight: 1250 (19.2%)
Obese: 901 (13.9%)

[6497 of 6497 Participants, Age 1-100 from All exhibits]
Sleep Education and Data Collection

Sleep Station

Get Your Zzz’s

Are You Sleeping Enough?

When Are You Feeling Your Best? Morning Or Evening?

Your Sleep Matters
Your body needs rest for function properly. Lack of sleep is linked to health issues like heart disease, diabetes, and depression. Learn how to improve your sleep and when you feel your best.

Let’s Get Healthy!
Let’s Get Healthy! visited Valor and French Prairie Middle Schools on October 14th & 17th, 2013 and collected research data from 1,051 Woodburn students. 303 students completed the sleep station and their results are shown below.

On school days, students wake up:

- 4% Early Bird
- 24% Rising Early
- 39% Average
- 25% Night Owl
- 8% Morning Type
- 3% Evening Type

Average bedtime for students is 10:00 pm on school nights and 10:35 pm on weekends.

16% of Woodburn middle school students leave for school at or before 7:00 am.

Average wake time for students is 6:15 am on school nights and 9:15 am on weekends.

5% of students go to bed at midnight or later on school nights.

1 out of 9 middle school students say they think they are “rarely” or “never” getting enough sleep.

Daytime Sleepiness

- 37% Alert
- 30% Somewhat Tired
- 22% Very Tired
- 11% Extremely Tired

Did you know?

Kids need about 9.25 hours of sleep each night to function best (for some, 8.5 hours is enough).

7:20 am

The average time Woodburn middle school students wake for school.

One-fourth of students said they thought the students in their school would meet recommendations for healthy sleep.

To see more results from your school and others, please visit: http://www.letsgohealthy.org
## Cardiovascular Education and Data Collection

### Blood Chemistry Station

#### Blood Levels (for Adults)

<table>
<thead>
<tr>
<th>Level</th>
<th>Total Cholesterol</th>
<th>HDL Cholesterol</th>
<th>LDL Cholesterol</th>
<th>Triglycerides</th>
<th>Glucose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended</td>
<td>890 (59.9%)</td>
<td>437 (29.8%)</td>
<td>259 (18.2%)</td>
<td>845 (56.4%)</td>
<td>1371 (91.3%)</td>
</tr>
<tr>
<td>Near Optimal</td>
<td>(N/A)</td>
<td>86 (5.9%)</td>
<td>453 (31.8%)</td>
<td>(N/A)</td>
<td>(N/A)</td>
</tr>
<tr>
<td>Borderline Risk</td>
<td>396 (26.6%)</td>
<td>331 (22.6%)</td>
<td>592 (41.6%)</td>
<td>286 (19.1%)</td>
<td>102 (6.8%)</td>
</tr>
<tr>
<td>At Risk</td>
<td>201 (13.5%)</td>
<td>611 (41.7%)</td>
<td>120 (8.4%)</td>
<td>366 (24.4%)</td>
<td>28 (1.9%)</td>
</tr>
<tr>
<td>Total</td>
<td>1487</td>
<td>1465</td>
<td>1424</td>
<td>1497</td>
<td>1501</td>
</tr>
</tbody>
</table>
Sun Safety Education and Data Collection

Protect Your Skin
Reduce your risk of skin cancer

SUN SAFETY SCORES

FITZPATRICK SKIN TYPE

2012 INTERNATIONAL SERIOUS PLAY AWARDS
Silver Medal Winner

Type 1 = Always burns, never tans.
Type 2 = Usually burns, tans with difficulty.
Type 3 = Sometimes mild burn, gradually tans to olive.
Type 4 = Rarely burns; tans with ease to a moderate brown.
Type 5 = Very rarely burns, tans very easily.
Type 6 = Never burns, tans very easily; deeply pigmented

EXCELLENT
GOOD
FAIR
WATCH OUT!

[96 of 90 Participants, Age 9-16 from Sisters Middle School]
Epigenetics Education and Data Collection

Pre-game questions

Level 1

Level 2

Level 3

Level 4

Post-game questions

True or False: 4 Questions

3. Gene expression can be turned on or off, much like the volume knob on a radio.
   - True
   - False

The correct answer is: True

Genes provide the instructions for making proteins that make your body work. The body can make more or less protein by turning these genes on or off. Did you know? Genes make up only 2% of your DNA!
How have the data been used?

High School Students

Schools and Districts

Workplaces

Researchers

 Communities

Graduate Students

**Science Spotlight!**

**Dr. Jonathan Purnell**

**Let's Get Healthy!**

**WHAT'S THE BIG IDEA?**

*Dr. Purnell wants to determine how genetics affect body weight regulation.*

*His study will help predict how well an individual will lose weight in response to dieting and weight loss surgery.*

**WHAT'S YOUR ROLE?**

*Your information will be compared to that of another obese individual. Dr. Purnell will use this information to highlight your role.*

*Dr. Purnell is especially interested in learning more about the fat A1 allele and its role in steady and weight loss.*

**Yolo County Health Department**

**Public Health**

**Prevent. Promote. Protect.**
Using Data from the Epigenetics Game: Lessons Learned from n=1000 who played the game at Let’s Get Healthy! fairs

Study sites: Seven middle and high school sites (n=1000 students) in Oregon (n=655, 65%), California (n=149, 15%), and Washington (n=197, 20%)

- Few have heard about epigenetics before
- Game length of ~20 minutes is too long for half to complete in fair settings

<table>
<thead>
<tr>
<th>Age</th>
<th>“Yes” “I have heard about epigenetics before”</th>
<th>Total Sampled</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;18</td>
<td>14%</td>
<td>974</td>
</tr>
<tr>
<td>18-25</td>
<td>43%</td>
<td>7</td>
</tr>
<tr>
<td>26-40</td>
<td>56%</td>
<td>9</td>
</tr>
<tr>
<td>41-60</td>
<td>33%</td>
<td>9</td>
</tr>
<tr>
<td>61+</td>
<td>50%</td>
<td>2</td>
</tr>
</tbody>
</table>

Hey y’all,

Thank you soooo much for your Let’s Get Healthy program and all the work it took to pull it off. There were a lot of positive water cooler conversations about the day. I even know one naysayer who after insisting she wanted nothing to do with it, heard all the positive chatter then decided to go down and have a look for herself. She came back with a big smile on her face reporting that she went to every station, and that it was really well done and interesting. That is a big win!!!

Speaking of interesting, and this is not a scientific study, had there been a vote it would have gone to the epigenetic station.

Our hats are off to you guys and the volunteers

In health,

Steven Blakesley
Health Promotion Specialist, Clatsop County Public Health
Game play significantly increased self-reported ability to describe epigenetics to someone else.

- Only 55.8% “enjoyed the game” (length cited as reason).
- However, 73.6% said the game “made them think more about how their choices affected their health”. These individuals were also significantly more likely to:
  - **Enjoy** the game (p<0.001)
  - **Knowledge**: Get more game questions correct (7.9 out of 10 vs 7.4; p<0.012)
  - **Intend to change** their...
    - diet (p<0.01),
    - sleep (p<0.001),
    - stress (p<0.005),
    - but not their air quality (p=0.44).

Ongoing Results (n=1000)
Evaluation of Sun Safety Education
Benefits of Skin Protection
1. Being in the sun is a bad thing.
2. I'm going to use sunscreen this summer.
3. Getting a suntan will age my skin more quickly.
4. Being in the sun makes me tired.
5. Getting a suntan is bad for my health.
6. Getting a suntan will make my skin look worse when I am an adult.
7. Getting a suntan increases my chances of getting skin cancer.
8. I can prevent skin cancer in the future by using sunscreen.
9. Protecting my skin from the sun is important to me.
10. I am afraid of being in the sun.
11. Sun damage is worse for kids than for adults.

Barriers to Skin Protection (reverse scored)
1. Being in the sun is a good thing.
2. I would like to get a tan this summer.
3. A suntan makes me feel better about myself.
4. Being in the sun is good for my health.
5. Being in the sun improves my mood.
6. A suntan makes me look better.
7. Being in the sun gives me more energy.
8. Getting a suntan is good for my health.
9. Protecting my skin from the sun is not as important as some people say it is.
10. It’s worth getting a little burned to get a good tan.

Knowledge
1. Self checks of my skin help to detect the early signs of skin cancer.
2. A suntan means that my skin is damaged by the sun.
3. Ultraviolet (UV) rays damage my skin.
4. A change in how a mole looks could be a sign of cancer.

Sun Protection Intentions Scale (Cafri 2005)
In the future, how often do you intend to:
1. Use sunscreen with sun protection factor (SPF) 15 or higher on your face when you are in the sun?
2. Use sunscreen with SPF 15 or higher on every exposed part of your body when you are out in the sun?
3. Wear a hat when you are in the sun?
4. Wear protective clothing to cover your body (e.g. long sleeved shirt, pants, or skirt) when you are in the sun?
5. Try to stay in the shade when you are outdoors?
Sisters Middle School (May 21, 2015)

- Significant gains in attitudes, knowledge, and intended sun safety behaviors among students attending the fair.
Dissemination of information

Teacher Discussions
1. During this school year... how much have your teachers talked in class about the LGH fair
2. Have you talked in class about sun safety or skin cancer risk
3. Have you talked in class about student participation in research?

Family and Peer Discussions
1. I talked with my family about what I learned at the health fair
2. I talked with my friends about what I learned at the health fair
Using Sun Safety and Diet Modules: KidSpirit (Summer 2015)

**Primary objectives:**

- Assess sun safety and diet knowledge and behaviors in a cohort of youth campers and young adult counselors in the Benton county area.

- Evaluate the influence of the Let’s Get Healthy! skin cancer module on participant’s knowledge, perception and behaviors around sun safety and skin cancer prevention.
Using Sun Safety and Diet Modules: KidSpirit (Summer 2015)

Data Collection

Staff:
Eligible: 85
Consented: 74

Campers:
5 Cohorts of campers
Eligible: 220
Consented: 135

Education using LGH Stations planned for each 2 week session.
What Else Can We Do?
Increase Accessibility
Online / in the Classroom / in the Community

Teacher professional development

Classroom Lessons and Activities

Lending Library of Materials
LGH Expansion to Ohio and Thailand