

INITIAL EVALUATION OF LOUISIANA'S "SMALL CHANGES/HEALTHY HABITS" PILOT PROGRAM

Praja Adhikari, MS
Elizabeth Gollub, PhD, MPH, RD
Louisiana State University, AgCenter
Baton Rouge, Louisiana



BACKGROUND

HEALTH STATUS

- Louisiana is one of nine states in the USA with an obesity rate higher than 35% ¹

America's Health Ranking 2019 places Louisiana at No 49:

- 47th in percentage of adults with obesity
- 46th in death due to Heart disease and Stroke
- 47th in percentage of adults with Diabetes

BACKGROUND

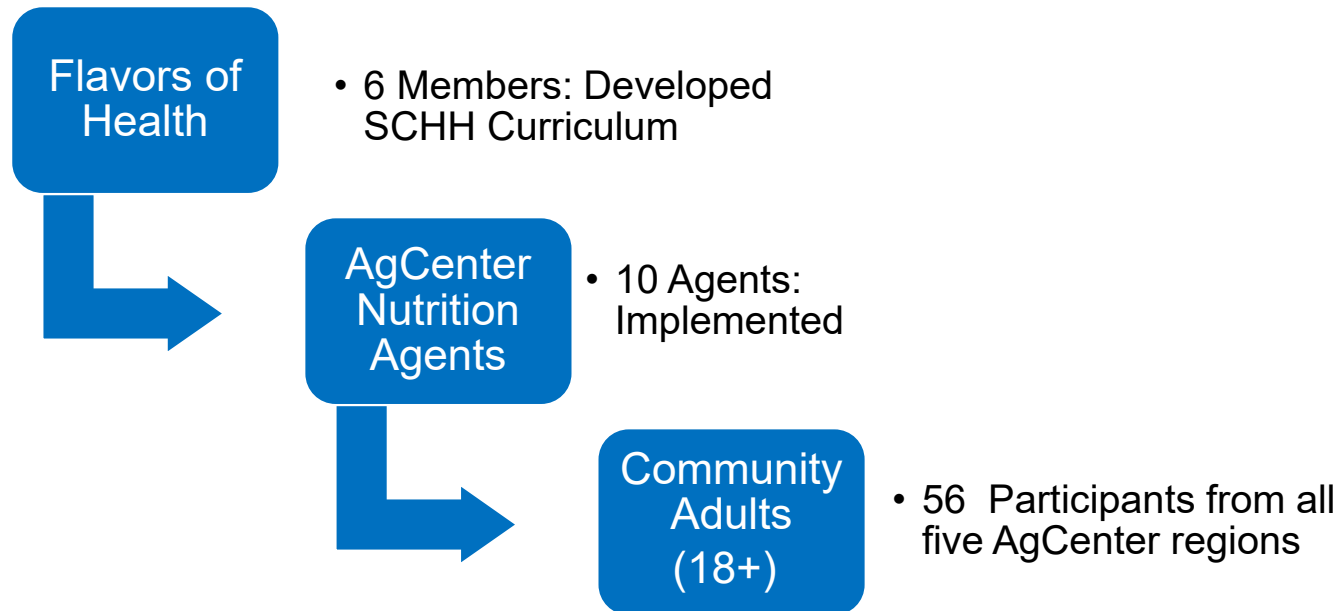
PHYSICAL ACTIVITY STATUS AMONG LOUISIANA'S ADULTS

- 23% of the population meets physical activity guidelines
- Ranks 46th in physical inactivity (30.8%)¹



BACKGROUND

SCHH CURRICULUM DEVELOPMENT AND DELIVERY



SCHH CURRICULUM

INCLUDES FOUR SESSIONS:



Habit Formation, Physical Activity and Goal Setting



Home Food Environment



Grocery Store Tour

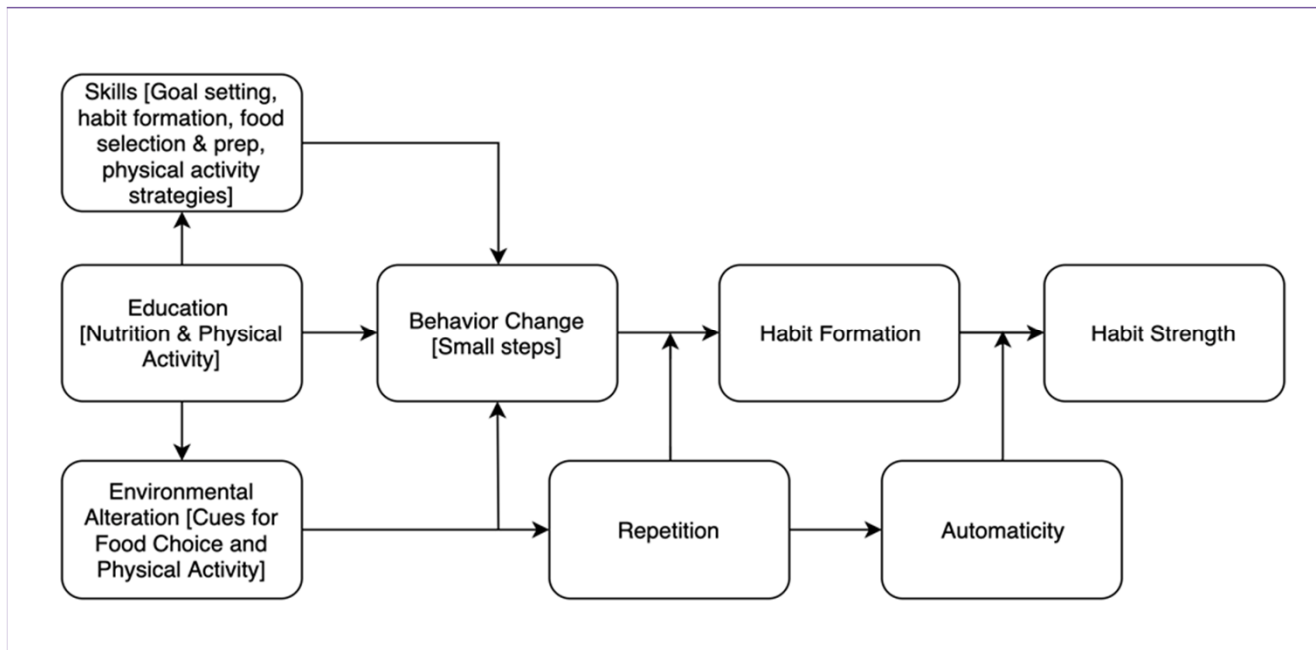


Cooking/Knife Skills (food preparation skills)

SCHH CURRICULUM

Underlying theory :

The SCHH curriculum is designed to influence the initiation of small, healthy behavior and transition to routine automatic behaviors (habits).



OBJECTIVE

TO CONDUCT AN INITIAL EVALUATION OF THE EFFECTIVENESS OF THE SMALL CHANGES/HEALTHY HABITS (SCHH) COMMUNITY-BASED NUTRITION EDUCATION CURRICULUM ON KEY FOOD AND PHYSICAL ACTIVITY BEHAVIORS AMONG ADULTS IN LOUISIANA.

METHODS AND MATERIALS

PARTICIPANTS

- The SCHH program was open to adults (≥ 18 years) in Louisiana.
- Study participants were a convenience sample of adults from all five AgCenter regions of Louisiana.
- Recruitment was done through AgCenter nutrition agents.

METHODS AND MATERIALS

DESIGN

The study was developed as pre, post, and 6-month follow-up survey design to track the changes in targeted health behaviors and progress in selected habit formation goals over three time points.



METHODS AND MATERIALS

DATA COLLECTION MATERIALS

1. PARTICIPANT SURVEY QUESTIONNAIRE:

- 22 questions related to food/healthy eating behaviors, food purchase and preparation, physical activity, demographic information
- Source: NHANES, BRFSS, WHO-STEPS and some new (original) questions

METHODS AND MATERIALS

DATA COLLECTION MATERIALS

2. HABIT ASSESSMENT TOOL

Developed 10-item Habit Assessment tool to capture habit formation and its strength.

Adapted from:

- 4-item Self-Reported Behavioral Automaticity Index (SRBAI) ²
- 12-item, Self-Reported Habit Index (SRHI) ³

METHODS AND MATERIALS

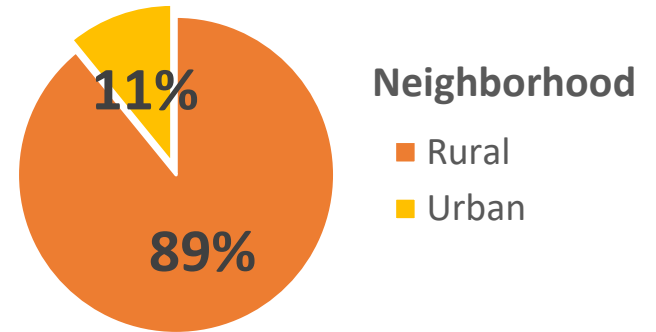
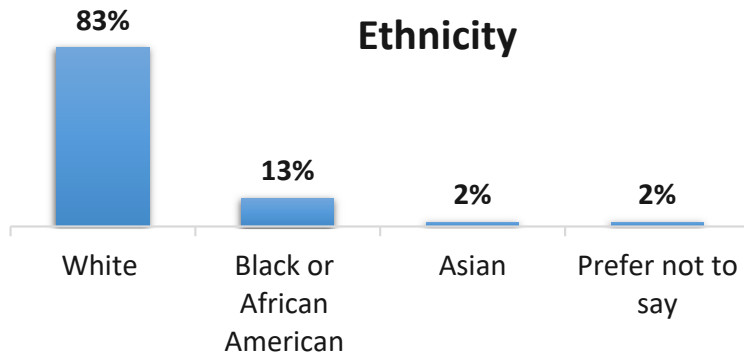
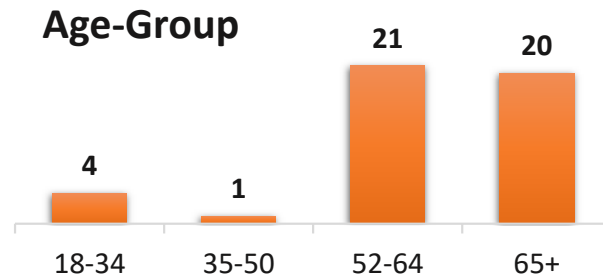
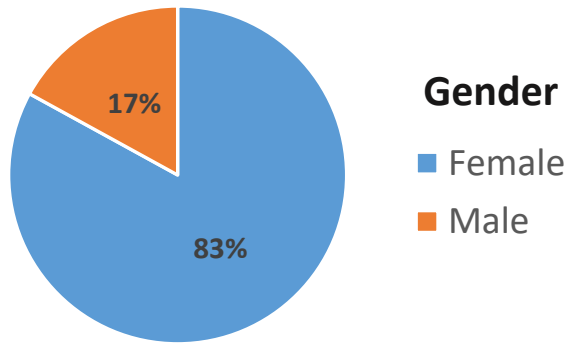
DATA COLLECTION MATERIALS

3. PHOTO DOCUMENTATION METHOD

- Previously used as tool to measure food intake or food waste⁴
- Pre and post photo documentation was used to assess the home food environment
- Exploratory methodology

RESULTS

PARTICIPANT DEMOGRAPHICS



RESULTS

HEALTHY EATING BEHAVIOR

Table 1. Pre and Post Comparison of Eating Behavior Frequency

Q1	Category	Pre mean value	Post mean value	Paired t test, P-value*
1a	Fruits intake frequency	1.55	↑ 1.74	0.26
1b	Dark-Green vegetables	0.95	↑ 1.03	0.46
1c	Orange-red colored vegetables	0.73	0.67	0.97
1d	Whole grain breads	0.98	0.90	0.95
1e	Whole grains or cereals	0.82	0.63	0.45
1f	Regular soda	0.14	↓ 0.12	0.67
1g	Sugar sweetened beverages	0.32	0.32	0.33
1h	Water	4.38	↑ 4.58	0.20

*p < 0.05

RESULTS

HEALTHY EATING BEHAVIOR

Significant increase in participants watching their fat intake ($p = 0.032$) and salt intake ($p = 0.01$)

Table 2. Pre and post comparison of consumption behavior

Variables	Total # of Participants	FI	NFI	NC	II	P-value
Currently watching fat	47	7	0	40	0.18	0.03*
Currently watching salt	47	7	0	40	0.18	0.01*

FI = Favorable Improvement, NFI = Non-Favorable Improvement,

NC = No Changes, II = Improvement Index

NA = Statistical test was Not Applicable for categorical responses

* $p < 0.05$

RESULTS

NUTRITION FACTS LABEL READING BEHAVIOR

When shopping: Increased frequency of reading Nutrition Facts Label and confidence in distinguishing healthier food choice among similar options

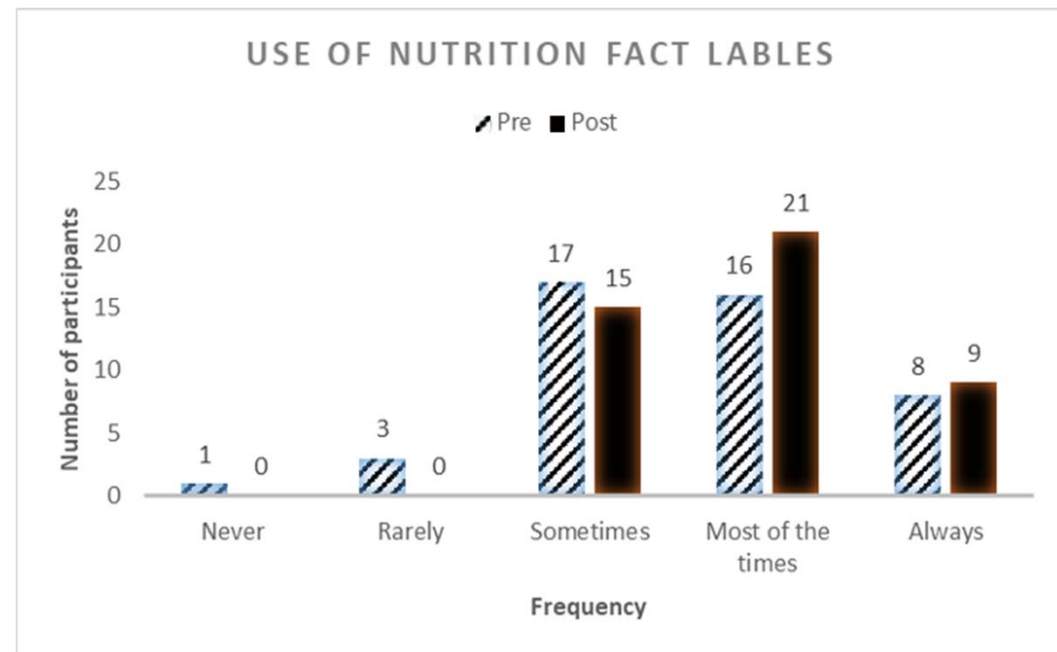


Figure 1. Pre and post program frequency of reading nutrition fact labels, self-reported

RESULTS

PHYSICAL ACTIVITY BEHAVIOR

- Time spent sitting decreased significantly from 338 to 227 min/day ($p < 0.05$)
- No significant change was found in time spent being physically active per day.

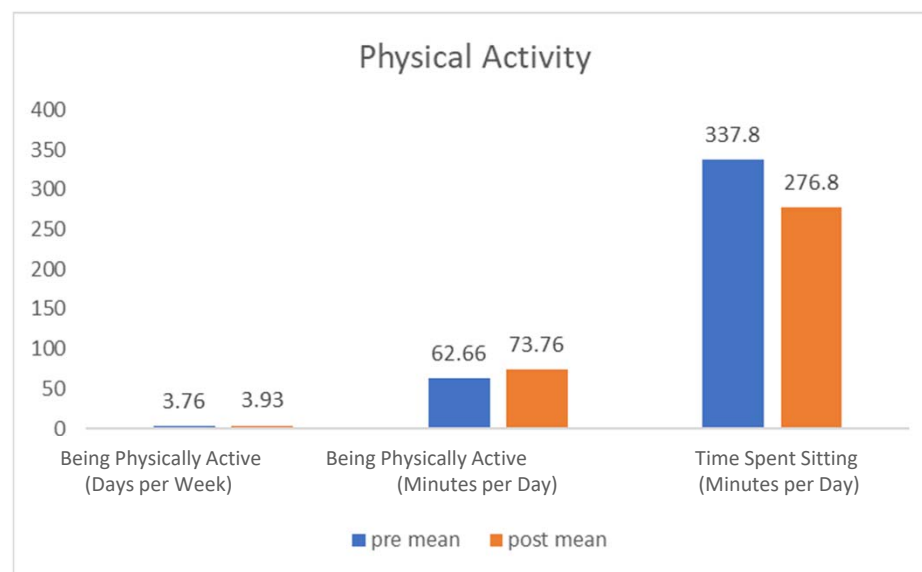


Figure 4. Pre-Post differences in Physical Activity

LIMITATIONS

- Participants' responses could be biased since data were self-reported
- Small sample size limits the generalizability of findings
- Even though the cognitive interview was completed, some questions and answer choices in the survey were not clear to all participants

CONCLUSION



The program appears to be influencing positive improvements in healthy eating behavior.



Skills that support healthy eating such as use of nutrition facts label, ability to choose healthier food options, and the confidence to prepare healthy meals at home has increased.



Participants are less sedentary and appear to be more physically active

PARTICIPANTS SATISFACTION

95% of the participants rated 4 or 5 out of 5 for the overall SCHH curriculum and showed interest for the same curriculum or similar programs

100% would recommend it to others

NEXT STEPS

- Participant survey will be revised in parts, to simplify the evaluation process for participants.
- Long term evaluation is required with larger audience.
- Use online data collection tool in future e.g. Qualtrics

References

1. State Summaries Louisiana | 2019 Annual Report. (2020). America's Health Rankings.
2. Verplanken B, Orbell S. Reflections on Past Behavior: A Self-Report Index of Habit Strength. *J Appl Soc Psychol.* 2003;33(6):1313-1330. doi:10.1111/j.1559-1816.2003.tb01951.
3. Gardner B, Abraham C, Lally P, de Bruijn GJ. Towards parsimony in habit measurement: Testing the convergent and predictive validity of an automaticity subscale of the Self-Report Habit Index. *Int J Behav Nutr Phys Act.* 2012. doi:10.1186/1479-5868-9-102
4. Martin CK, Nicklas T, Gunturk B, Correa JB, Allen HR, Champagne C. Measuring food intake with digital photography. *J Hum Nutr Diet.* 2014;27(SUPPL.1):72-81. doi:10.1111/jhn.12014

Acknowledgement

- Louisiana State University, AgCenter
- Dr. Elizabeth Gollub, Dr. Tuuri Georgianna, Dr. Erin McKinley
Dr. Thanos Gentimis
- All AgCenter Nutrition Agents
- SCHH Participants
- Audience

Thank you



LSU |

#SNEB2020: What Food Future?