Walking for Heart Health in Rural Women

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Disclosure

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Session Objectives

- The learner will understand methodology and strategies used to initiate and promote a pedometer based walking program in a rural community.
- The learner will interpret analysis of data from a pedometer based walking program on outcomes for adult women in a rural community.

Background

- Cardiovascular disease is the leading cause of death worldwide. Most cardiovascular diseases can be prevented if we modify our behavioral risk factors such as increasing physical activity, reducing weight and quitting smoking.

(World Health Organization, Cardiovascular diseases, 2015)

Background

- Decades of evidence demonstrate a relationship between increased physical activity and decreasing the risk of cardiovascular disease.
- These health benefits occur with moderate intensity physical activity of at least 150 minutes per week; evidence suggest a routine of brisk walking qualifies as moderate intensity.

(U.S. Department of Health and Human Services Physical Activity Guidelines, Advisory Committee, 2008)

Purpose of the study

- To influence the cardiovascular risk factors of women in a rural community in upstate New York.
- Implement a 10 week pedometer based walking program to promote healthy lifestyle choices.
- Examine how participation in the program affects known risk factors for cardiovascular disease.
- Examine the utilization of a pedometer with tracking capability to incentivize participants to increase walking.

Methodology

- Quasi-experimental study
- Examine the pre and post cardiovascular and walking measures in a 10 week program
  - BMI, BP, total/HDL cholesterol
  - 6-minute walk test
  - 10 year cardiovascular disease risk
    - NIH website http://cvdrisk.nhlbi.nih.gov/

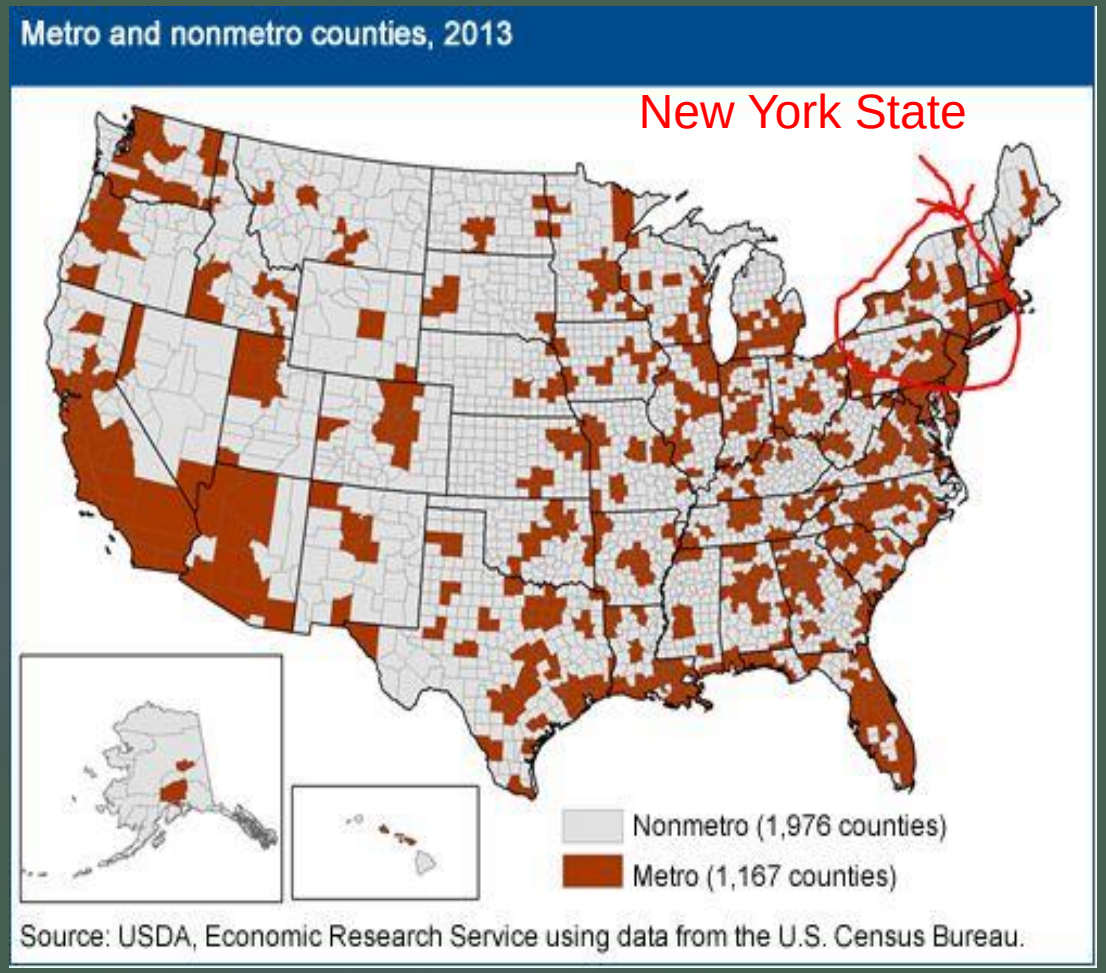
Methodology

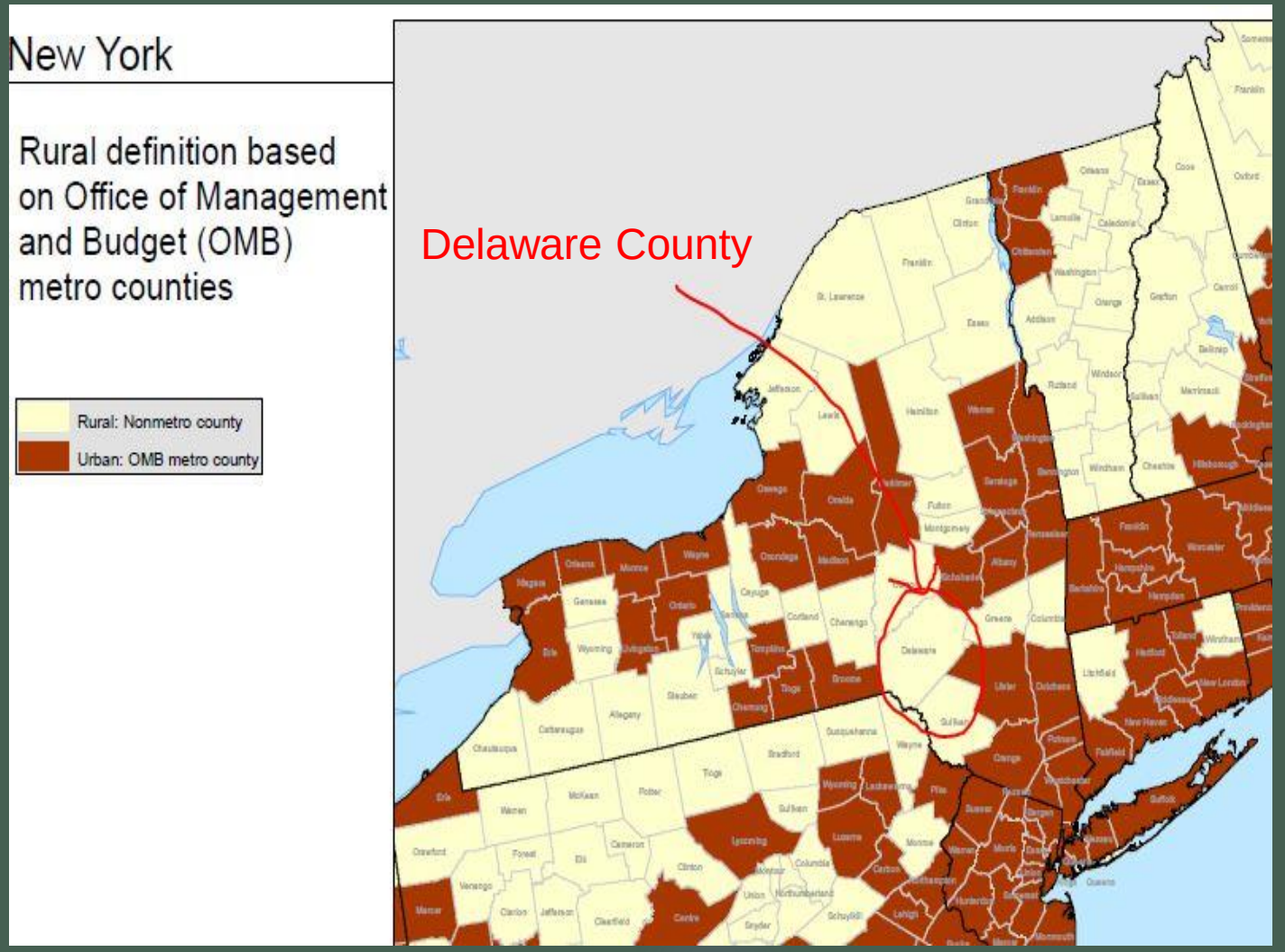
- Convenience sample of those participating in walking program (N = 62 eligible females).
- Pedometer activity was collected throughout the program, with computer downloads at 5 and 10 weeks.
- Participants were asked to walk for at least 150 minutes per week.
- Socio-demographic variables obtained - age, ethnicity, reported educational level.

Procedure

- Pretest measurements obtained
- Participants received a pedometer with tracking capability
- Pedometer data downloaded at 5 and 10 weeks – (heart health presentation)
- Posttest measurements obtained

Delaware County, NY defined as Rural area



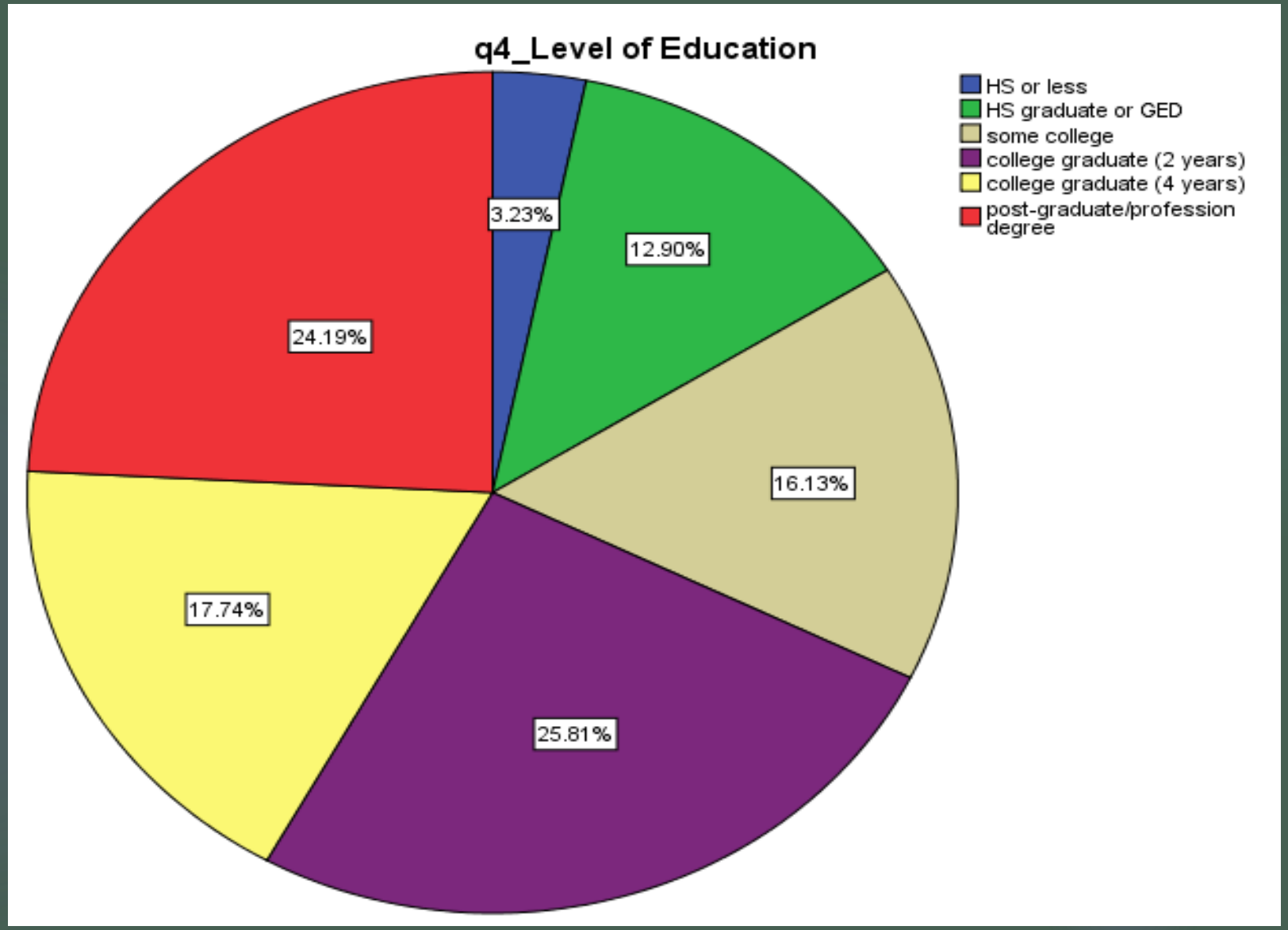


(USDA ERS - Rural Classifications, 2013)

Sample demographics

100% Caucasian female - N=62	Age in years
Mean age	55.0806
Median age	58.5000
Standard deviation	13.99566
Range	50.00
Minimum age	29.00
Maximum age	79.00

Level of Education



Pretest Profile

- 61.3 % of the participants were moderately physically active for 30+ minutes per day on 3 or more days per week
- They were provided with the following image on the question sheet which was adapted from an Assessment of Level and Intensity of Physical Activity.

Permission was obtained from Dr. James P. LoGerfo, MD, MPH, University of Washington Health Promotion Research Center.

Pretest Physiologic Profile

- Mean weight 181 lbs. (min 111 lbs. max 305 lbs.)
- Mean BMI 30.7 (min 19.5 max 49.2)
  - According to the NIHLBI : Obese ≥ 30
- Mean SBP 132
- Mean DBP 80
- Mean Total Cholesterol 203
- Mean HDL 55

Pretest Profile (continued)

- 43.5% were on blood pressure medication
- 24.2% were on lipid lowering medication
- Mean CVD risk score = 2.96 %
- Mean distance ambulated for 6 min walk test = 690 steps

Data Analysis

- Data was analyzed via the following
  - Descriptive statistics
  - Paired t-tests of pre and post data

Results and significant findings

- There was a statistically significant improvement ($p < .05$) in the following measures:
  - Weight, BMI, total cholesterol, systolic blood pressure
  - 6 minute walk test (steps)
  - Aerobic steps from midway through the end of the study after a raffle challenge was implemented

Paired Samples Test

Pair – *Pretest - Posttest*	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
Pair 1- weight (lbs) – *pretest - posttest*	3.12581	5.66719	.71973	4.343	61	.000
Pair 2- BMI - *pretest - posttest*	.52565	.97986	.12444	4.224	61	.000
Pair 3- Systolic Blood Pressure - *pretest - posttest*	4.62903	11.57758	1.47035	3.148	61	.003
Pair 4- diastolic Blood pressure - *pretest - posttest*	1.53226	8.07286	1.02525	1.495	61	.140
Pair 5- total cholesterol - *pretest - posttest*	6.21667	21.07701	2.72103	2.285	59	.026
Pair 6- HDL - *pretest - posttest*	-1.58333	8.03444	1.03724	-1.526	59	.132
Pair 7- 10 yr. CVD risk calculator (%) - *pretest - posttest*	.38333	1.62701	.21005	1.825	59	.073
Pair 8- distance ambulated in 6 minutes (steps) - *pretest - posttest*	-42.87097	50.73573	6.44344	-6.653	61	.000

Limitations

- Conducted on college campus
- Limited to Delaware County, NY
- All Caucasian female participants
- Non random sample
- Short study duration

Conclusions

- A community walking program utilizing pedometers with tracking capabilities was successful in improving cardiovascular risk factors, in the short term in a rural community in upstate New York.

Implications & Recommendations for Research

- Population health type community interventions are successful in decreasing cardiovascular disease risk factor in as little as 10 weeks.
- Study is replicable in another rural community.
- Pedometers with tracking capabilities served as an incentive in promoting increased steps.
- A raffle introduced midway through the study helped increase steps for the last 5 weeks.

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Thank you for your attendance!

Questions…