



#GetHeartChecked

Heart Checks: Preventing cardiovascular disease in young adults



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Presenters

Bernadette Mazurek Melnyk, PhD, RN, CPNP/PMHNP,
FNAP, FAAN

Kate Gawlik, DNP, RN, FNP-BC, ANP-BC

Laurel Van Dromme, MA



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Symposium Objectives

- 1.) The learner will be able to describe the health and healthy lifestyle behaviors of young college-aged students.
- 2.) The learner will describe the components of a Heart Check and preliminary results (from the 2016-2017 academic year).
- 3.) The learner will describe the planning, execution and evaluation processes of a Heart Check.



Wellness

- The optimal state of living well, regardless of an individual's spectrum of health
- Encompasses physical, intellectual, mental, emotional, social, occupational, financial, environmental and spiritual well-being



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Current State of Health in the U.S.

Behaviors are the number 1 killer of Americans, due to smoking, overeating, lack of physical activity, alcohol and drug use, non-adherence to medications and suicidal gestures

Overweight and obesity will soon surpass tobacco as the number one cause of preventable death and disease in the United States; 42% of Americans will be obese by 2030 (CDC, 2012); 1 out of 3 Americans will have diabetes by 2050

One out of 2 Americans have a chronic disease

One out of 4 Americans have multiple chronic conditions

Our children are now predicted to have a shorter life span than their parents



Sitting: A Big Energy Zapper and Contributor to Chronic Disease!



What Does The Evidence Tell Us?

Children and Adults are Stressed & Depressed!



One out of 4 children, teens and adults have a mental health problem yet less than 25% get any help. Depression and stress are poor predictors of health and wellness outcomes.



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Behaviors are the #1 killer of Americans



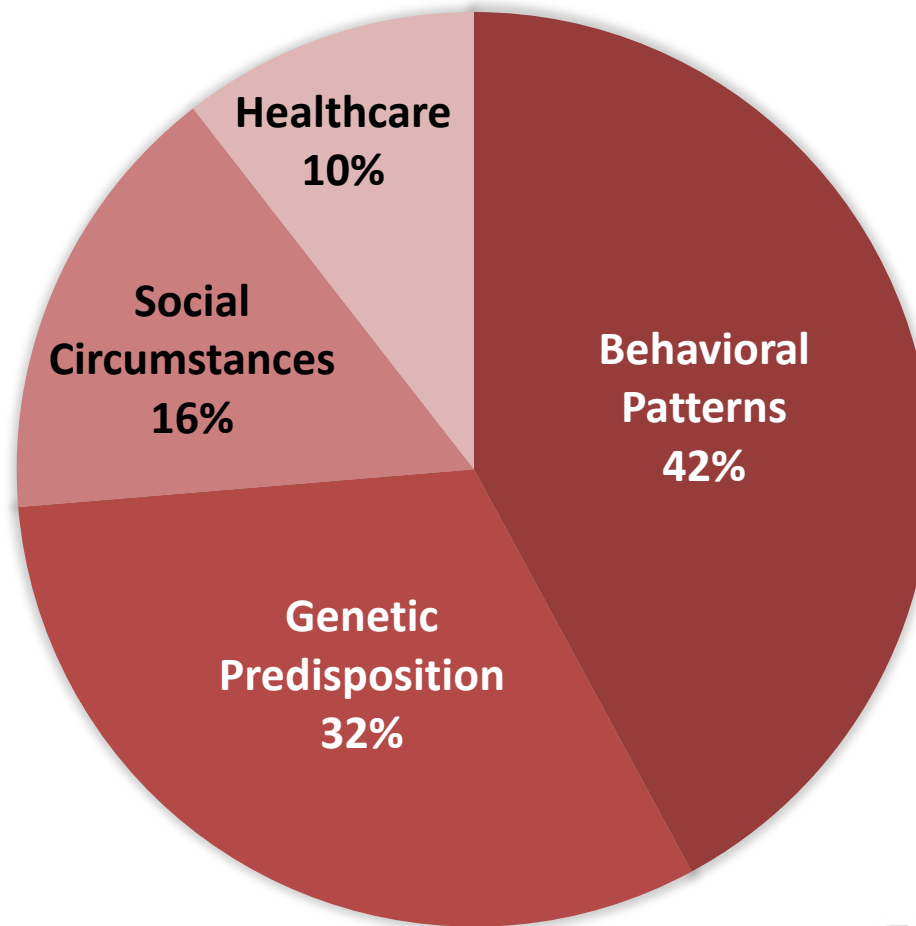
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Every day, we make behavioral choices that influence our health and wellness outcomes



Contributors to Premature Death from Cardiovascular Disease (CVD)



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Based on Evidence, What Do We Know?

People who have the following behaviors have 66% less diabetes, 45% less heart disease; 45% less back pain, 93% less depression, and 74% less stress

- **Physical activity** - 30 minutes 5 days per week
- **Healthy eating** - 5 fruits and vegetables per day
- **No smoking**
- **Alcohol in moderation** - 1 drink per day for women, 2 drinks per day for men



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6.3

Percent of adults who engage in the 5 leading health behaviors that can reduce the risk of chronic disease. Nearly 83% of health-care spending could be cut if more people employed:

- ❖ **Not Smoking**
- ❖ **Exercising regularly**
- ❖ **Avoiding alcohol or drink in moderation**
- ❖ **Maintaining a healthy body weight**
- ❖ **Getting sufficient sleep**

CDC, 2016

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New Year's Resolutions for ~~2009~~ ~~2011~~ ~~2012~~ 2013

1. Lose ^{more} weight again
2. Get fit next year
3. Give up ~~alcohol~~ ^{and cigarettes} drink less
4. Stand ^{find job} up to boss
5. Be nicer to my wife ^{ex-}
6. Sort out junk in shed ^{life}



Healthy Behaviors = Healthy People

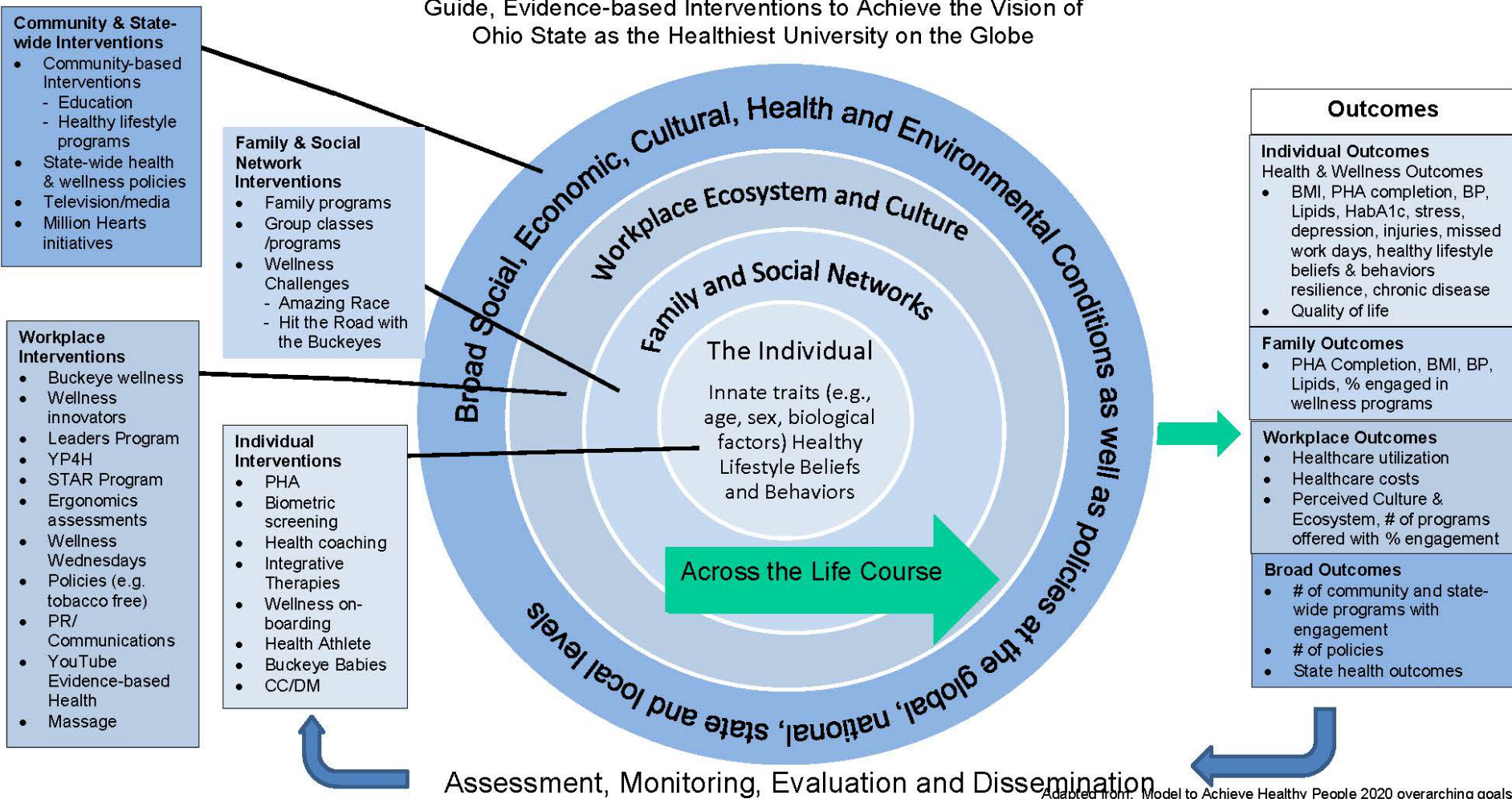


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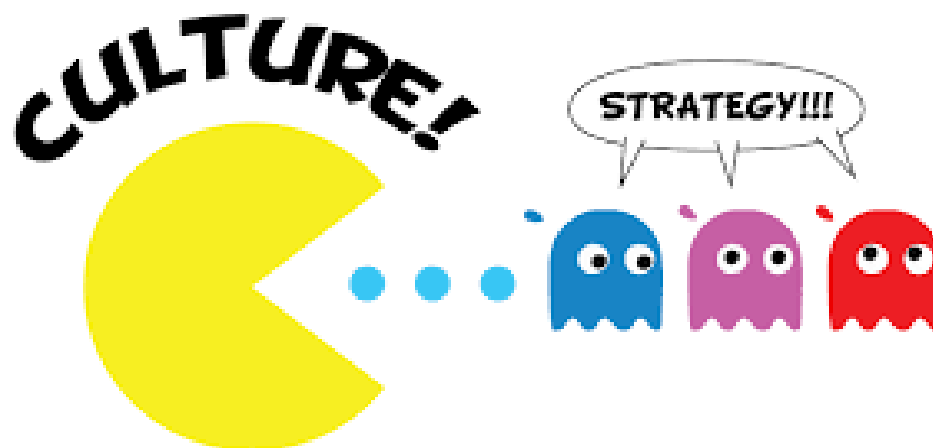
The Ohio State University
 The Social-Ecological Framework and Life-Course Perspective
 Guide, Evidence-based Interventions to Achieve the Vision of
 Ohio State as the Healthiest University on the Globe



Adapted from: Model to Achieve Healthy People 2020 overarching goals
 Source: Secretary's Advisory Committee on Health Promotion and Disease Prevention Objectives for 2020 (2008, p. 7)

A Sustainable Culture of Wellness is a Must for Health

*Remember,
Culture Eats Strategy!*



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Health of College Students

- Cardiovascular disease is the fifth leading cause of death in those aged 15-34 (Centers for Disease Control and Prevention, 2015).
- Many risk factors surface in adolescence and track forward into adulthood
- From the years 1988 to 2012, rates of obesity in youth aged 2-19 increased from 5.2% to 16.9% (National Health and Nutrition Examination Survey (NHANES), 2013)
- Heart disease risk increases by 2-4% for each year a young adult is obese



Health of College Students

- 10-20% of young adults have advanced atherosclerotic lesions
- AHA's 2020 Strategic Impact goals along with NHLBI 2012 Expert Panel's Guidelines for cardiovascular risk reduction in children and adolescents emphasize primordial prevention
- Focus on preventing the development of risk factors themselves



Today, *Make Just 1 Change* for Your and Your Family's Wellness

- Decide to take the stairs instead of the elevator
- Drink water instead of a sugared beverage
- Hold 50 minute meetings instead of 60 minutes, and use the 10 minutes for a recovery break
- Read 10 minutes in a positive book every morning
- Take 5 slow deep breaths when stressed
- Sit less, stand more
- Laugh more



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1 in 3


Women die of heart disease.



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Every

80 seconds

A woman dies from heart disease.



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Heart disease and stroke drain

\$1 billion

from the U.S. economy every day.



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The Million Hearts[®] Initiative

Controlling these risk factors can reduce risk of heart attack and stroke by more than **80%¹....**

Look at the



that exists!



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1. Centers for Disease Control and Prevention (n.d.) About Heart Disease and Stroke. Retrieved from <http://millionhearts.hhs.gov/abouthds/risk-factors.html#hdAge>

CVD Risk Factors

Risk Factors that CAN be changed

- High blood pressure
- High cholesterol
- Tobacco
- Overweight/Obesity
- Diabetes
- Physical inactivity
- Poor diet
- Depression

Risk Factors that cannot be changed

- Race
- Older age (≥ 65)
- Gender
- Heredity



Partnerships

- Ohio State University became first academic partner of **Million Hearts®** in 2013
- Ohio State created an online, inter-professional educational module on CVD in 2013



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Partnerships

- **Women's Heart Alliance** selected Ohio State as its 2nd university partner in 2016

WOMEN'S **HEART** ALLIANCE

- Support from **University President Michael Drake, MD, & Congresswoman Joyce Beatty (OH-3)**, stroke survivor



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Heart Healthy, Buckeye Strong

1. Raise awareness: 4 key messages
2. Educate through screenings: **Heart Checks**
3. Study current knowledge, attitudes, behaviors of female students (18-40 years)



Raise awareness

4 key, simple messages
(repeat, repeat, repeat)

1. Be active
2. Eat healthy
3. Manage stress
4. Avoid tobacco



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Raise awareness

Engage across campus

- a) President's Office
- b) Athletic Department
- c) Student Life
- d) Greek Life



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Heart Healthy, Buckeye Strong

- Ohio State campaign launched Fall 2016 to educate female students about heart disease and stroke



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Raise awareness

Marketing & Communications

- a) Slogan: **Heart Healthy, Buckeye Strong**
- b) Call to action: Get Heart Checked
- c) Create student videos and share
- d) Microsite: **heartcheck.osu.edu**
- e) Social media: **#getheartchecked**
 - Facebook, Twitter, Snapchat filters
 - Instagram cutouts
 - Contests: Guess the # of Steps taken by Brutus Buckeye



Raise awareness

Marketing & Communications

- f) Ads in campus newspaper, newsletters, & on campus bus
- e) Peer-to-peer networks
e.g. Greek Life, & student wellness groups
- e) Sidewalk chalk
- f) Residence hall posters



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Raise awareness

Find special events

- a) Dedicated football game
- b) Marching Band feature
- c) Healthy Tailgate
- d) Game Program
- e) Jumbotron
- f) Social Media



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Heart Check

What is it?

- A brief cardiovascular screening and healthy lifestyle education session
- Designed to be 20-25 minutes or less
- Goal is to increase awareness on personal heart health and educate on healthy lifestyle changes



Heart Check

Planning

1. Determine location (high traffic area)
2. Select date and time (mid-day)
3. Plan marketing campaign



Heart Check

Planning

4. Identify key personnel, such as:

Nursing faculty,
NP students, and
BSN students.



5. Order equipment &
supplies



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Heart Check

Equipment & Supplies

- Blood pressure cuffs
- Stethoscopes
- Body Mass Index charts
- Scales
- Stadiometers
- Hand sanitizers
- Computers/iPads
- Cholesterol machines
- Cholesterol supplies
- Educational handouts
- Referral forms
- Miscellaneous eqpt



Heart Check

Planning

6. Determine who gets a cholesterol screen

Participants who screen positive for one or more of the following:

- Diabetes
- Obesity (BMI >30)
- Hypertension (high BP)
- tobacco user (i.e., smokes, vapes, or chews)
- family history of premature CVD



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Heart Check

Planning

7. Determine triage protocol and referrals, & contact referral sites in advance
 - a) Emergent: BP \geq 180/110 or w/o symptoms \rightarrow ER immediately
 - b) Urgent: BP \geq 160-179/100-109 & w/o symptoms \rightarrow PCP/student health/urgent care w/in 24 hours
 - c) BP 140-159/90-99, elevated cholesterol, abnormal BMI (>30), current smoker with readiness to quit, reports elevated stress \rightarrow PCP or student health



Heart Check

Planning

8. Consider and order give-aways

(Buckeye Wellness pack: branded shirt, water bottles, reusable lunch kits, hot/cold compress, stress balls)

9. Make copies of referral forms, educational hand-outs, etc.



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Heart Check

Planning

10. Determine logistics

- Designate roles and particular stations/ responsibilities
- Table set-up and flow



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Heart Check

Student identified and registered



Student Pre-screened → if positive for pre-screening, flagged for cholesterol station



Student gives consent and starts Intake Survey w/ personnel ready to answer questions



Student completes Heart Check (w/ or w/o cholesterol)



Student is provided appropriate referrals, giveaways



Heart Check

Special considerations

- Good logistics/flow
- Use of technology to speed up screenings
- Survey questions
e.g. depression screen versus stress screen
- Conduct a trial run



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Research Study Objectives

- Describe the health and healthy lifestyle behaviors of college-aged women (18-40 yrs)
- Analyze the healthy lifestyle beliefs, behaviors and the health of college-aged women
- Determine efficacy of individualized cardiovascular education and skills-building on the health and healthy lifestyle beliefs and behaviors of college-aged women



Research Study

- Design: longitudinal randomized controlled trial with survey and biometric screening
- Participants entered into a drawing to win one of ten Fitbits
- Randomly assigned code at registration for control vs. intervention



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Research Study

- Survey: 53 questions
 - a) Qs on demographics, personal health, family health, healthy lifestyle beliefs & healthy lifestyle behaviors
 - b) Includes two valid, reliable scales: Perceived Stress Scale – 4 & Healthy Lifestyle Beliefs Scale
 - c) 5 Qs on current knowledge of women and heart disease (used for pre/post test)
 - d) Final 2 Qs ask:
 - About personal commitment to improving one healthy lifestyle behavior?
 - Are they willing to share what they learned with 5 other people?
 - e) 8 questions completed by Heart Check personnel



Research Study

- At 3-months: email follow-up sent to participants to complete either:
 - a) Student Life and web wellness resources or
 - b) Heart Check Education Station (online module)
- At 6-months: repeat both the survey and Heart Check screening



Research Study

Online Student Wellness Resources for control group

STUDENT LIFE WELLNESS RESOURCES

As part of the research study, please spend 75 minutes learning about wellness by accessing the following websites:

9 Dimensions of Wellness

go.osu.edu/9-dimensions

Wellness initiatives

go.osu.edu/wellness-initiatives

Resources for Wellness

go.osu.edu/wellness-resources

Presentations for wellness

go.osu.edu/wellness-presentations

Thank you for participating in the research study.



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Research Study

HEART CHECK EDUCATION STATION

Follow these directions to access the Heart Check Education station:

1. Go to go.osu.edu/millionhearts
2. Select Heart Check Education Station from the Course list
3. Select Create new account if you are a new user or login if you are a returning user.
 - If you are registering as a new user you will receive an email with a confirmation link to verify you have used a valid email address. After receiving this e-mail, please click on the link to activate your account.
 - You will then be directed to a website and you will need to click on the button that says "Enroll Me."
 - This should complete your enrollment into the course.
4. Please watch all 4 lectures.
5. Following completion of the lectures, you will be asked to share information with five family members and/or friends about heart health.

Thank you for your participation in this research study.



WOMEN'S
HEART
ALLIANCE

Heart Check Education Station for intervention arm with 4 short lectures on heart health



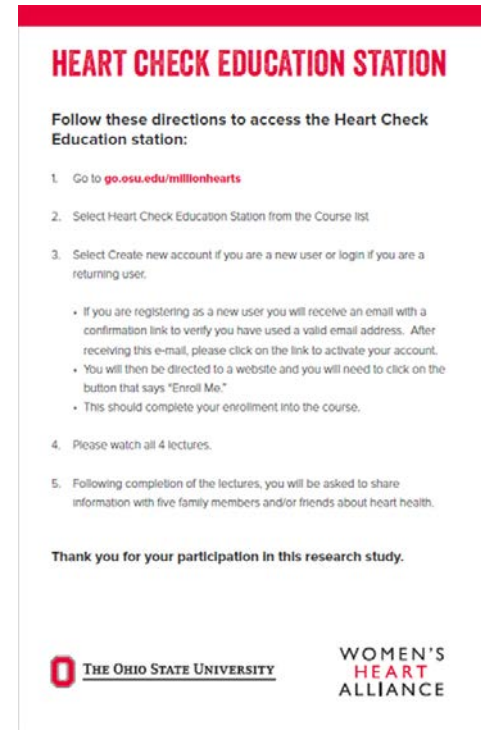
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Research Study

Heart Check Education Station

- Lecture Content
 1. Heart health overview
 2. Physical activity
 3. Nutrition
 4. Stress Management
- Peer-to-peer videos
- Asks participants to screen 5 friends and family members




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Thank you for your participation in this research study.

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**WOMEN'S
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Research Study

Current numbers

- 8 Heart Checks
- 1,026 students screened
- 834 college students enrolled in the study
- Minor changes were made for this 2017-2018



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Research Study

Sample Demographics

- 18-22 years old (80.0%)
- Female (79.7%)
- Non-Hispanic whites (65.4%)
- Undergraduate students (83.5%)
- 95% reported having good to excellent health



Research Study

Sample characteristics

- Top three reported pre-existing conditions: anxiety (19.7%), depression (12.2%), and overweight/obesity (8.8%).
- 72% reported a family history of one or more listed health conditions, with the top three being high blood pressure (49.9%), diabetes (38.5%), and high cholesterol (34.9%).



Research Study

Health Behaviors

- 95.3% had <100 cigarettes in life
- 24.5% met the physical activity recommendations (150 minute or more per week) and 0.4% met the fruit/vegetable intake (5+ daily) recommendations
- Most had one or less servings of sweets per day (62.0%) or sugary beverages per day (84.4%)
- 26.4% reported high stress (PSS-4 score ≥ 9)
- 49.6% slept 6 hours or less per night



Research Study

Biometric Data

- 31.9% were overweight or obese
- 17.3% had pre-hypertension or hypertension
- Of all healthy lifestyle beliefs and behaviors, **poor sleep** was the only factor significantly associated with **all 3 cardiovascular risks** (P<0.001 for stress, P=0.026 for being overweight or obese, and P=0.023 for pre-hypertension and hypertension)



Research Study

Biometric Data

- Higher healthy lifestyle belief score was correlated with lower PSS-4 ($r=-0.17$), greater healthy lifestyle knowledge ($r=0.14$), greater physical activity ($r=0.20$), and greater intake of fruits/vegetables ($r=0.18$).

**GREATER HEALTH SELF EFFICIACY =
HEALTHIER LIFESTYLE**



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Sleep

Stress

and tasks as
way for the future
is opportunity
his new plan
of future

Diet

Exercise

Modifiable risk factors are present but
their biometrics have not been greatly
affected!



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Research Study

Evidence-based interventions targeted in these areas and focused on long term effects and sustained behavior change could prove beneficial to overall health and cardiovascular prevention for the college aged population.



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Call to Action!

To educate your students,

*we are happy to share the survey, and/or
have you join our research study
as a new site.*



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Special Thanks

- **Adam Warren;** Donor Relations & Special Projects Coordinator

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