DRUE WEBB
PGY-3
MCKAY-DEE FAMILY MEDICINE RESIDENCY

PHYSICAL ACTIVITY SCREENING AND COUNSELING IN THE PRIMARY CARE SETTING

JUST A FEW DEFINITIONS

- Sedentary/Inactivity: No increased energy expenditure

- Aerobic activity: Increases respiratory and heart rate

- Moderate-intensity activity: increased HR w/perspiration

- Vigorous-intensity activity: breathing hard with significant increase in HR

WHY DO WE CARE?

- Effect multiple areas of health
- Increased risk for Non-communicable diseases (NCD)
- Estimated 300,000 deaths annually
- Only 21% of adults in the US meet recommended guidelines

IMPACT OF PHYSICAL INACTIVITY

- Increased all-cause mortality
- Increased coronary heart disease
- Increased type 2 DM
- Increased breast and colon cancer

http://www.heart.org/HEARTORG/HealthyLiving/PhysicalActivity/FitnessBasics/American-Heart-Association-Recommendations-for-Physical-Activity-in-Adults_UCM_307976_Article.jsp#.WuVzmcgh2u4

BENEFITS OF PHYSICAL ACTIVITY

- Reduced incidence of NCD
- Improves blood pressure and lipid levels
- Prevent osteoporosis
- Improves health in older patients

American Heart Association | American Stroke Association
life is why

The American Heart Association Recommendations for Physical Activity in Adults

For Overall Cardiovascular Health:

At least 30 minutes of *moderate-intensity* aerobic activity **At least 5 days** *per week* for a **total of 150 minutes**

OR

At least 25 minutes of *vigorous* aerobic activity **At least 3 days** *per week* for a **total of 75 minutes**

or a combination of the two

AND

Moderate to HIGH INTENSITY muscle-strengthening activity **At least 2 days** *per week* for additional health benefits

For Lowering Blood Pressure and Cholesterol:

An average of 40 minutes of *moderate- to vigorous-intensity* aerobic activity **3 or 4 days** *per week*

Learn more at **heart.org/ActivityRecommendations**.

ADDITIONAL RECOMMENDATIONS

- Avoid inactivity
- Minimum of 10 minute increments
- 300 minutes a week or more for added health benefits
- Light daily activities don’t really count

CURRENT TREATMENT RECOMMENDATIONS

Summary of Recommendation and Evidence

Population	Recommendation	Grade (What's This?)
Adults who are overweight or obese and have additional CVD risk factors	The USPSTF recommends offering or referring adults who are overweight or obese and have additional cardiovascular disease (CVD) risk factors to intensive behavioral counseling interventions to promote a healthful diet and physical activity for CVD prevention.	B

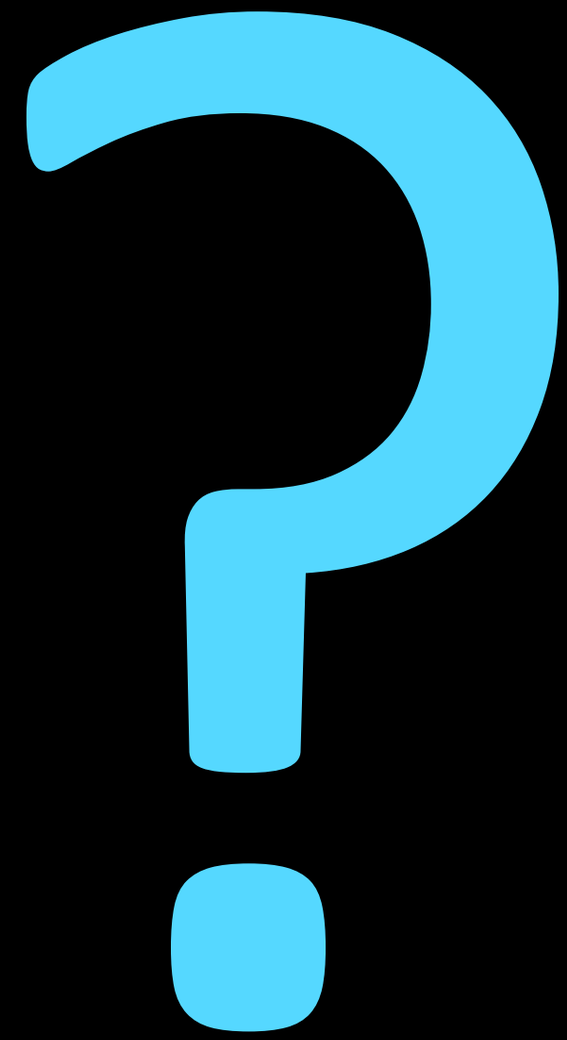
https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/healthy-diet-and-physical-activity-counseling-adults-with-high-risk-of-cvd

Population	Recommendation	Grade (What's This?)
General adult population without a known diagnosis of hypertension, diabetes, hyperlipidemia, or cardiovascular disease	Although the correlation among healthful diet, physical activity, and the incidence of cardiovascular disease is strong, existing evidence indicates that the health benefit of initiating behavioral counseling in the primary care setting to promote a healthful diet and physical activity is small. Clinicians may choose to selectively counsel patients rather than incorporate counseling into the care of all adults in the general population.	C

https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/healthy-diet-and-physical-activity-counseling-for-cvd-prevention-in-adults

WHAT'S THE QUESTION?

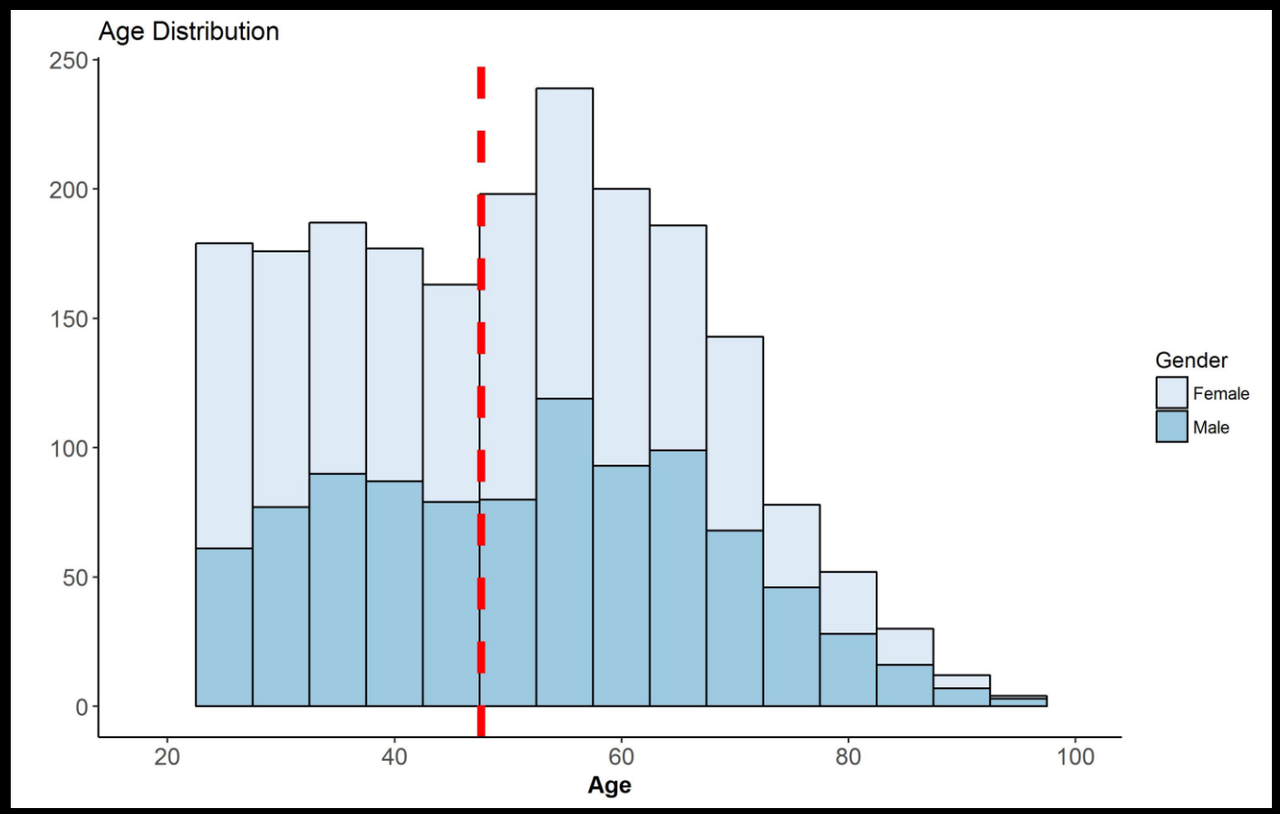
- Do reported activity levels correlate with improved health outcomes?
- Are the reported intensity levels and activities accurate?

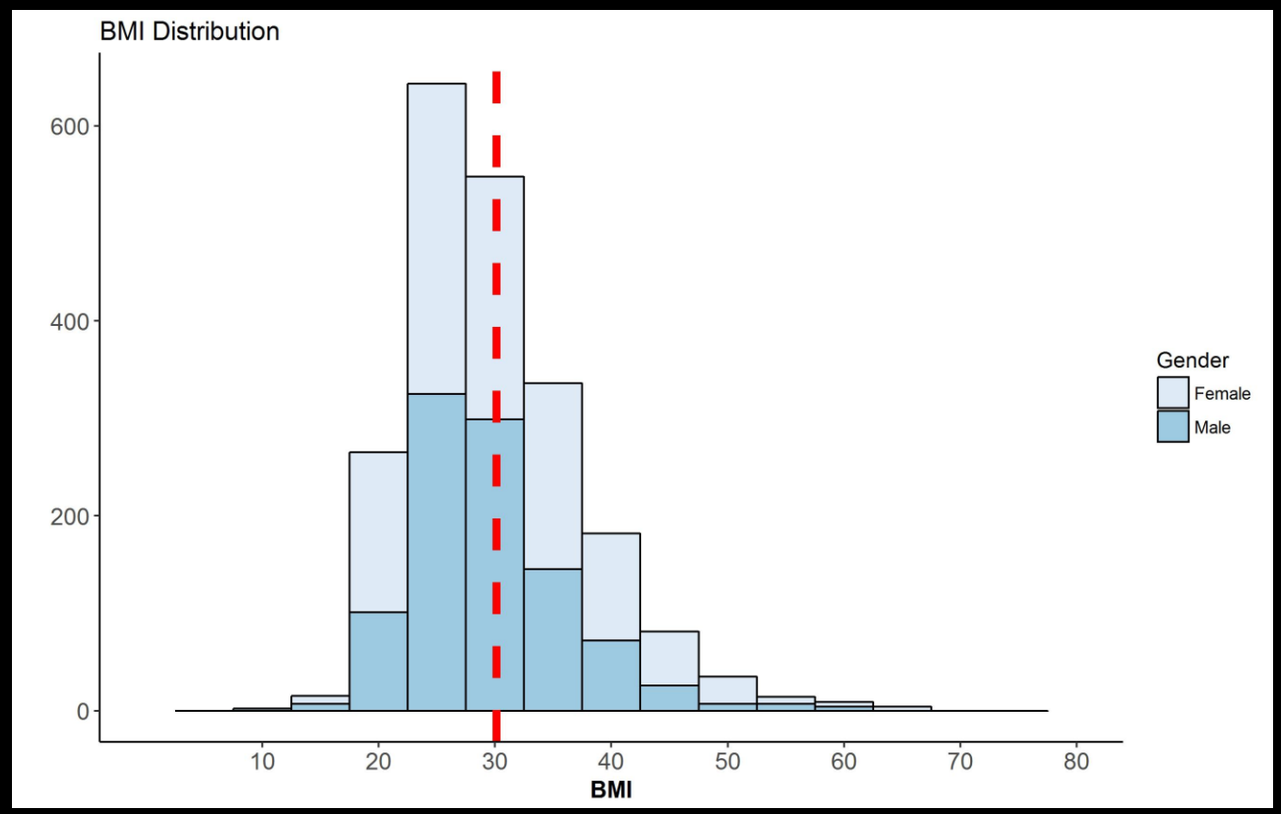


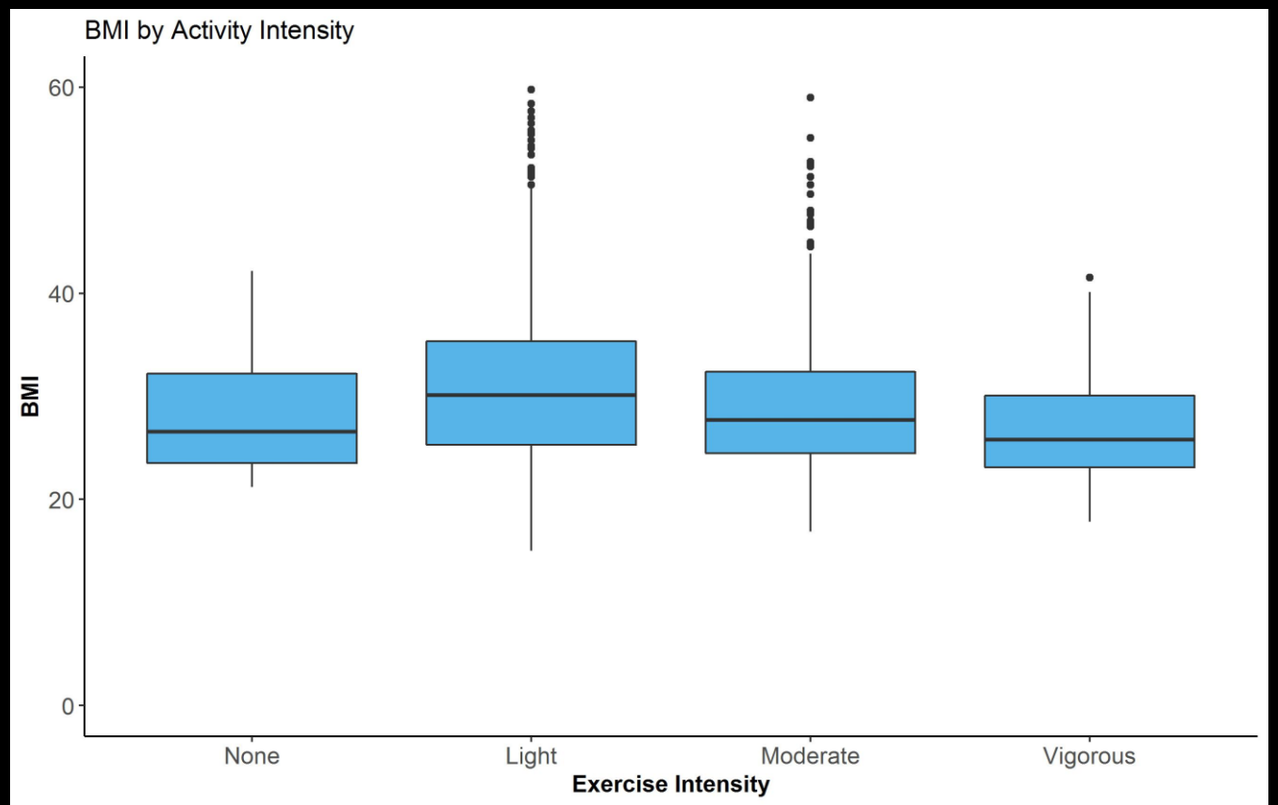
STUDY DESIGN

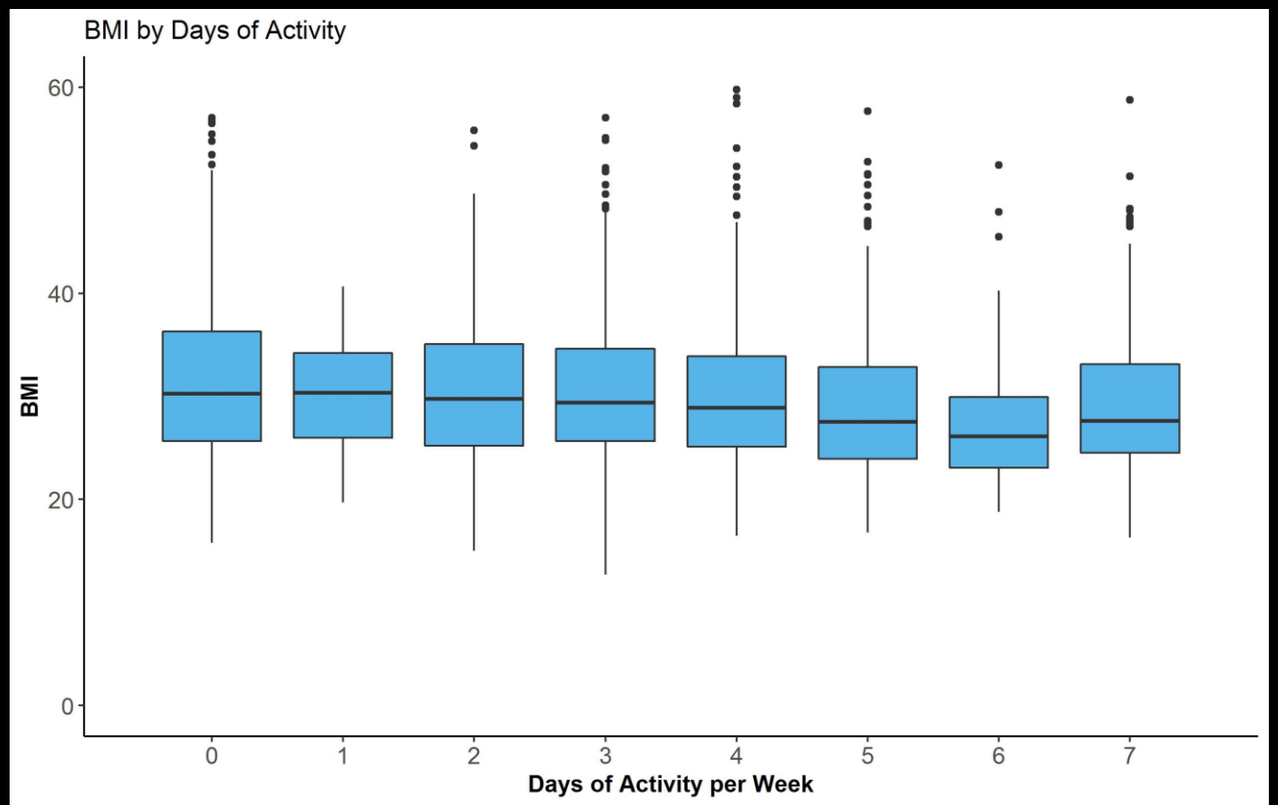
- 2 part study
- Retrospective chart review:
  - Responses to ambulatory screening questions
    - Number of days, Minutes per day, Intensity
  - >18 yoa, screened from 10/2015 to present
  - Health outcomes evaluated: BP, BMI, HgA1c
- Prospective study involving patient survey

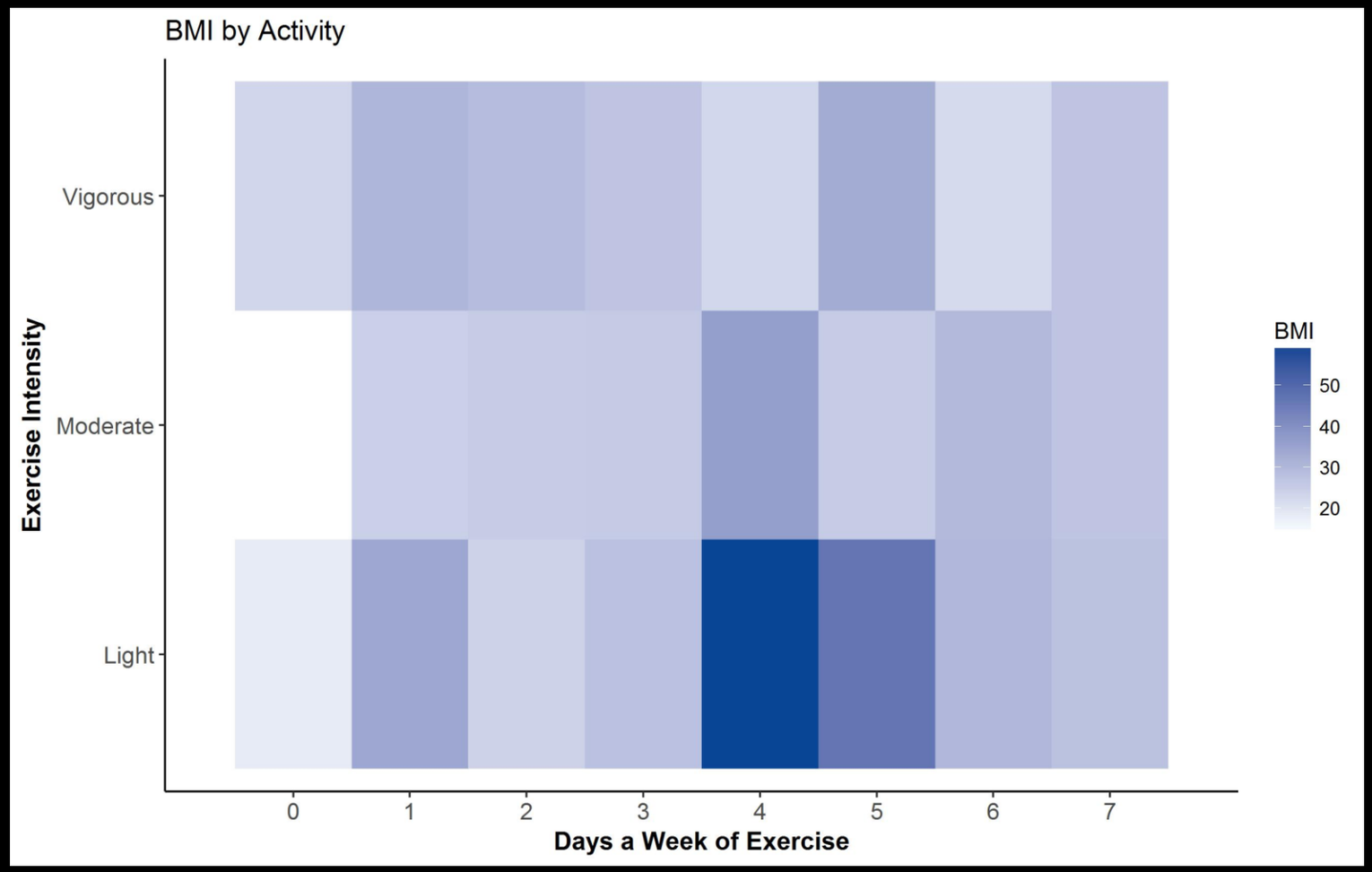
Study Population





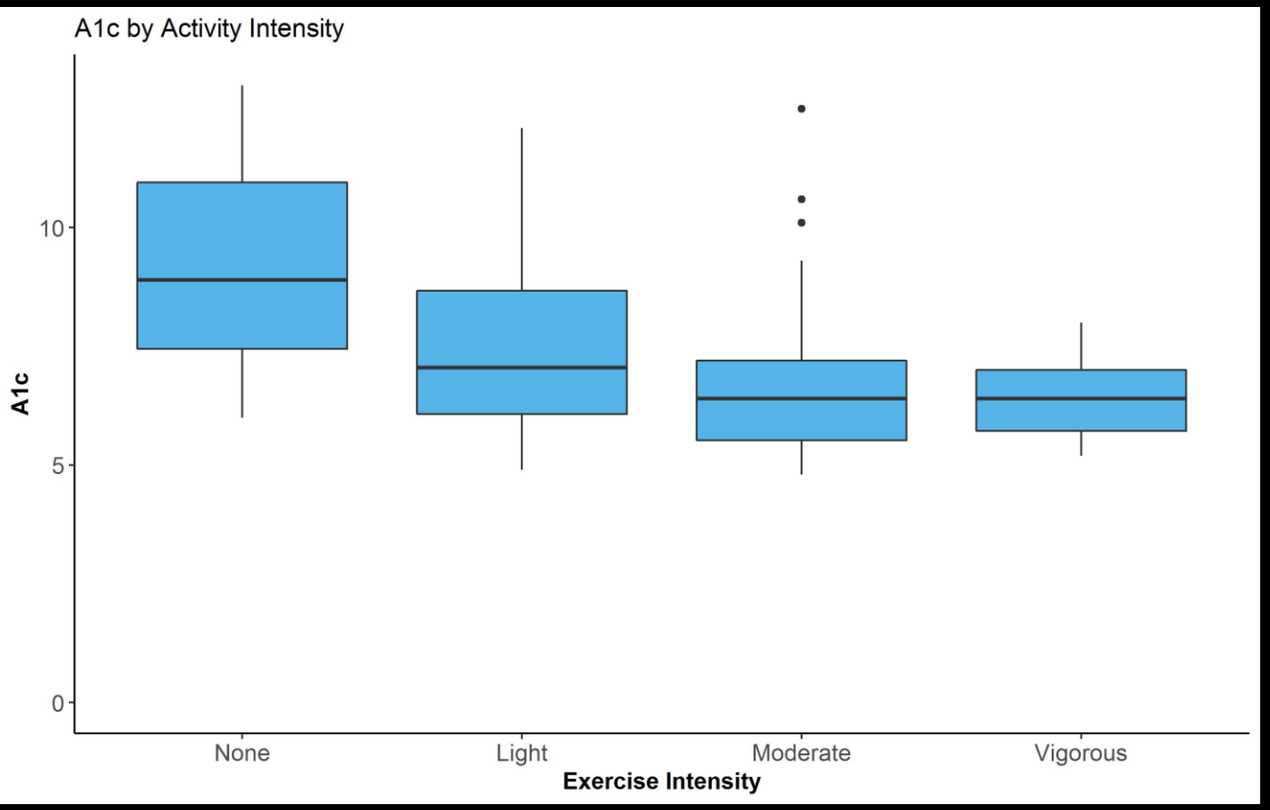

BMI by Activity Intensity
BMI
60
40
20
0
None
Light
Moderate
Vigorous
Exercise Intensity

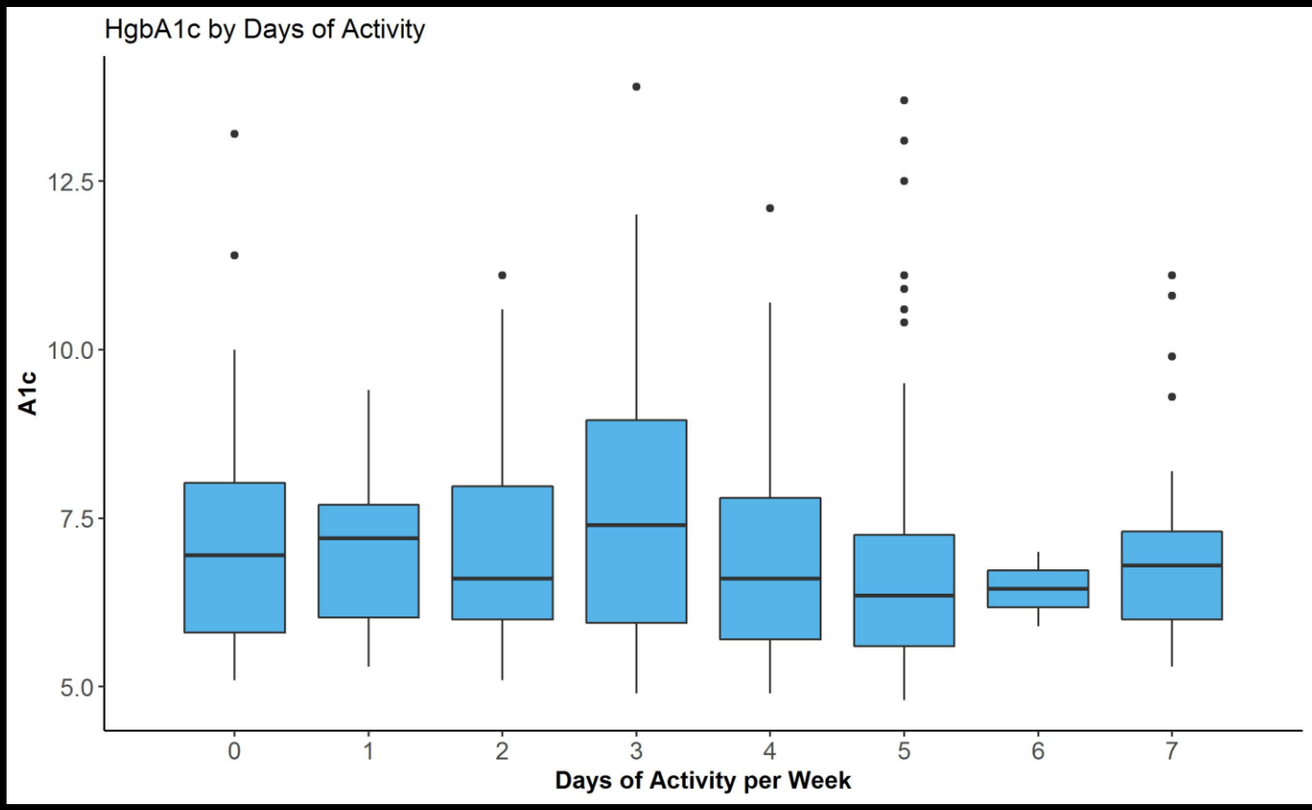

BMI by Days of Activity
BMI
60
40
20
0
0
1
2
3
4
5
6
7
Days of Activity per Week



Linear Analysis of BMI-1

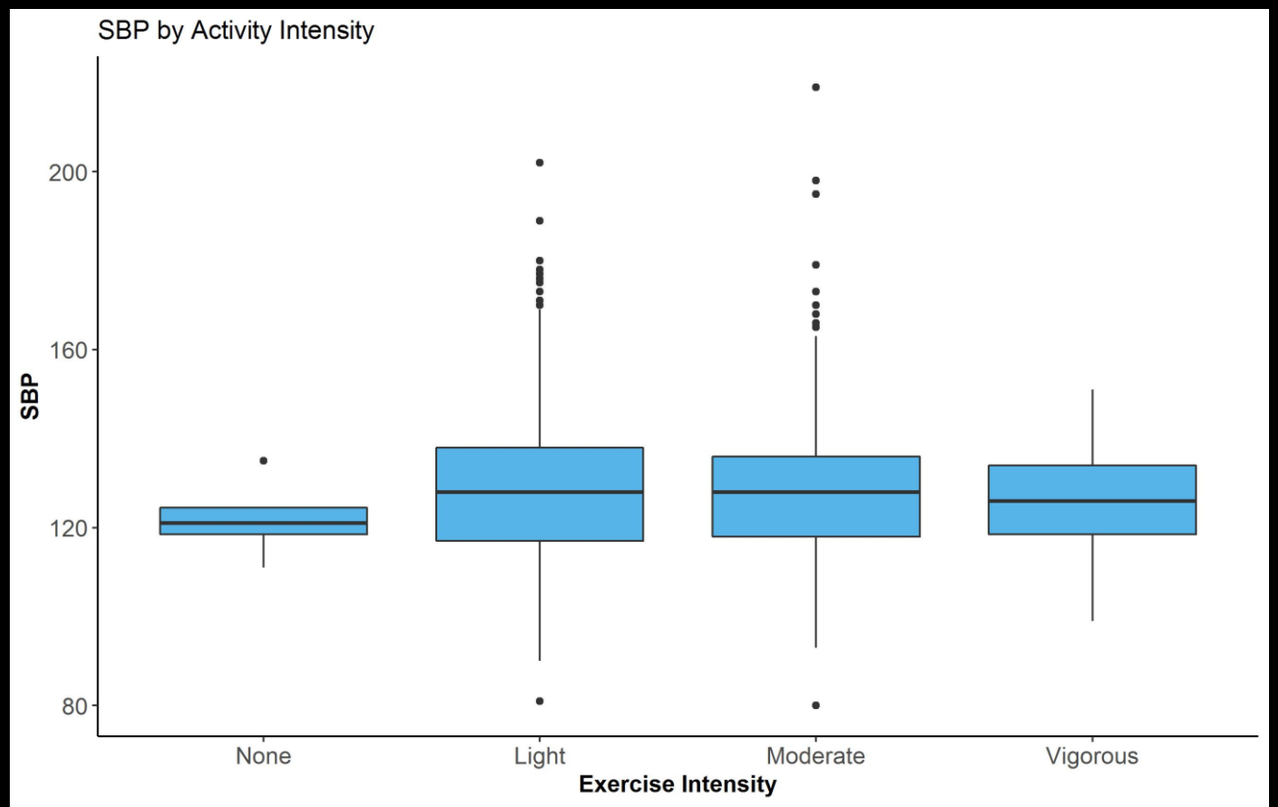
	Estimate	P-value
Moderate-Intensity	-1.54	0.000465
Vigorous-Intensity	-3.29	0.000295

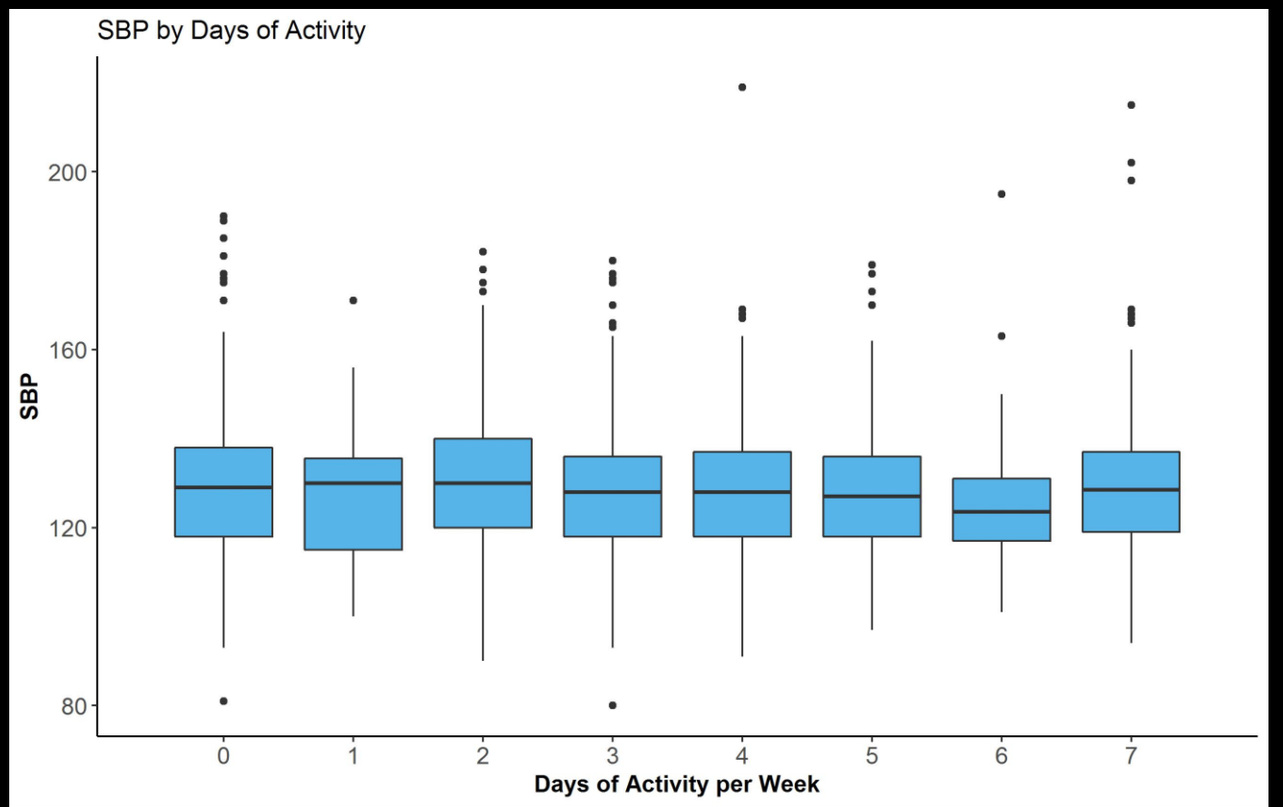


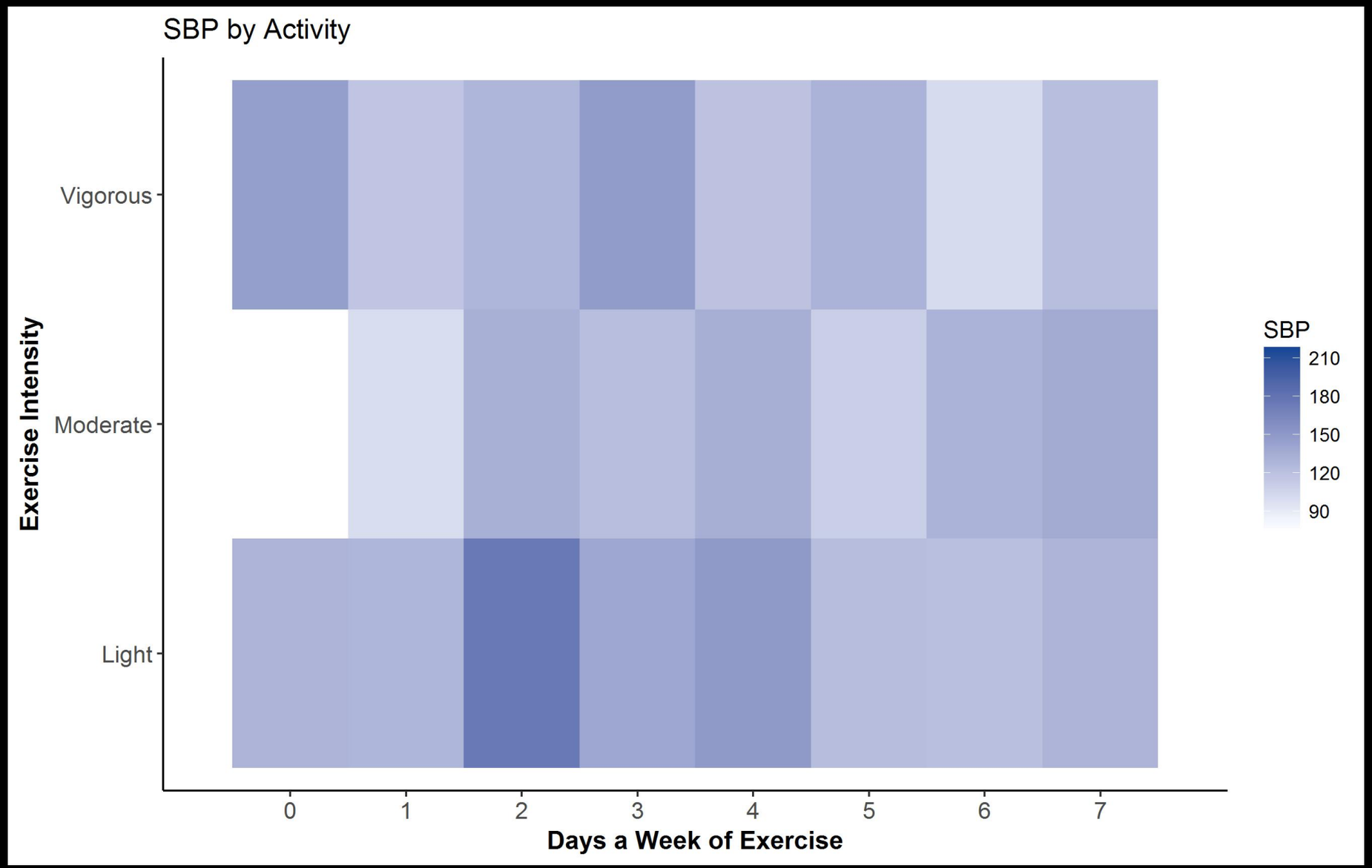


Linear Analysis of A1c

	Estimate	P-value
Moderate-Intensity	-1.29	0.000311
Vigorous-Intensity	-1.7	0.055307

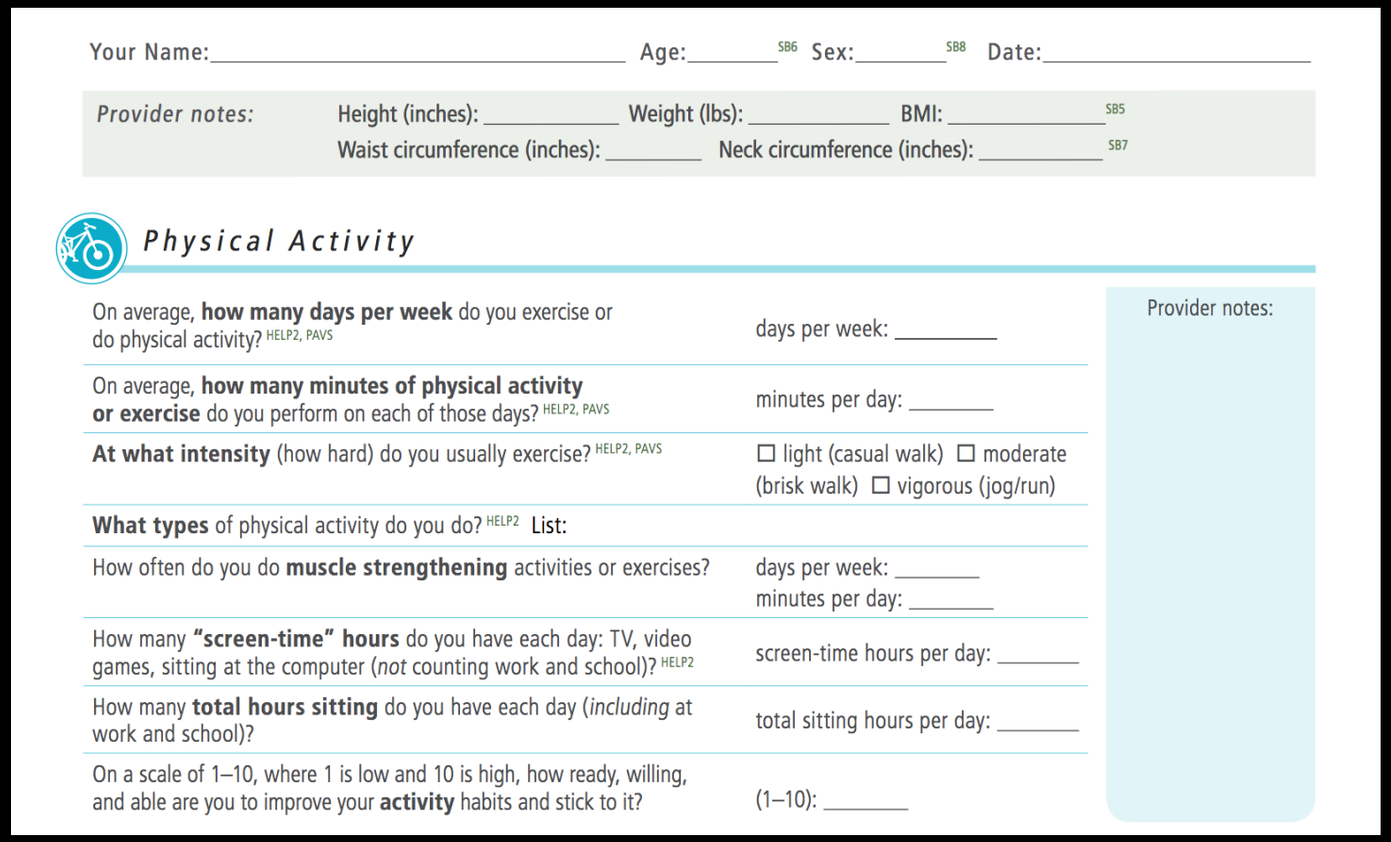

SBP by Activity Intensity
SBP
200
160
120
80
None
Light
Moderate
Vigorous
Exercise Intensity


SBP by Days of Activity
SBP
200
160
120
80
0
1
2
3
4
5
6
7
Days of Activity per Week


SBP by Activity
Exercise Intensity
Vigorous
Moderate
Light
0
1
2
3
4
5
6
7
Days a Week of Exercise
SBP
210
180
150
120
90

PATIENT SURVEYS

- 72 total patients
- 3 month time period
- Age 18 or greater
- BMI 25 or greater

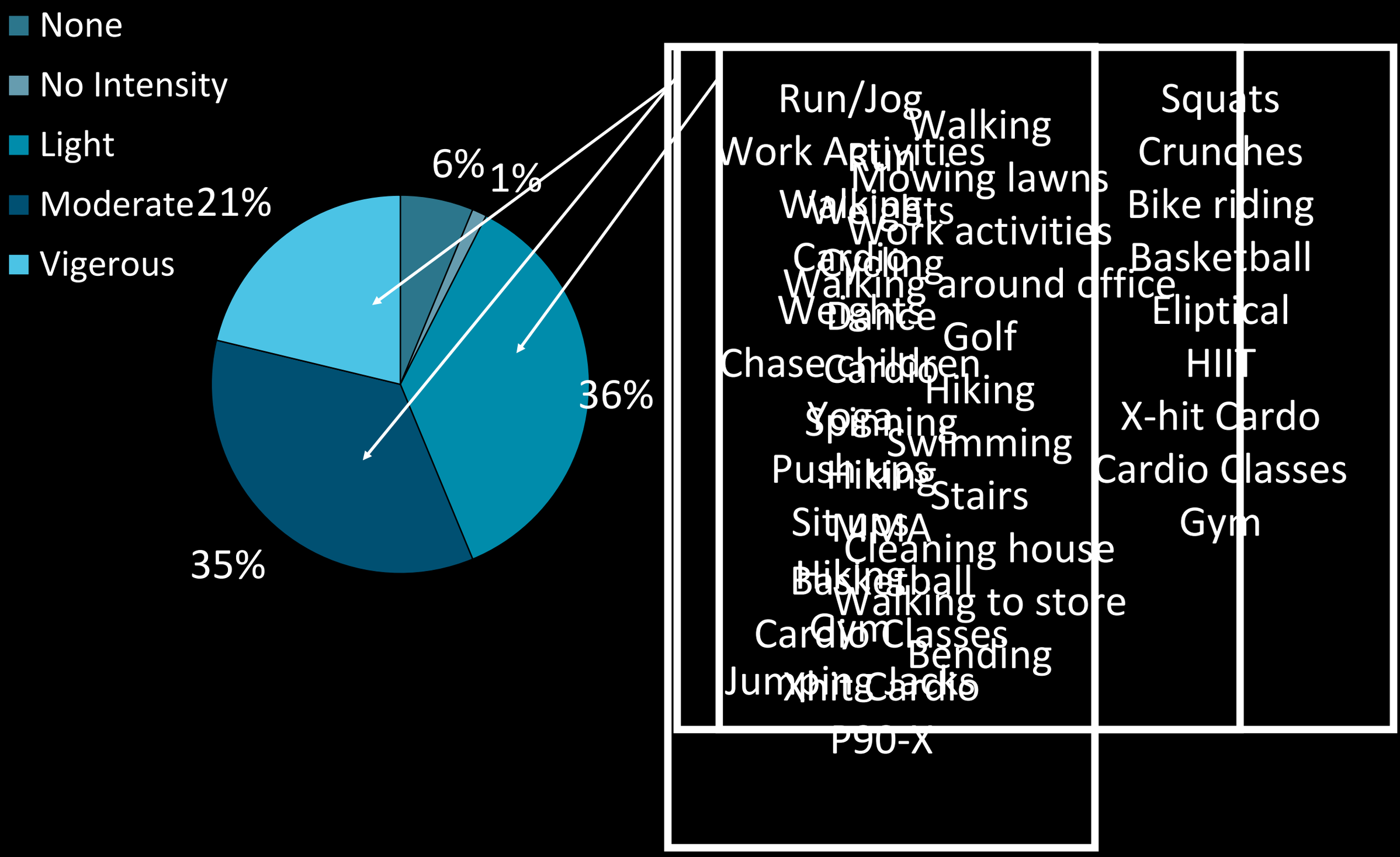


Your Name:_____ Age:_____[SB6] Sex:_____[SB8] Date:_____

Provider notes: Height (inches): _____ Weight (lbs): _____ BMI: _____[SB5]
Waist circumference (inches): _____ Neck circumference (inches): _____[SB7]

Physical Activity

On average, **how many days per week** do you exercise or do physical activity? HELP2, PAVS	days per week: _____	Provider notes:
On average, **how many minutes of physical activity or exercise** do you perform on each of those days? HELP2, PAVS	minutes per day: _____	
At what intensity (how hard) do you usually exercise? HELP2, PAVS	☐ light (casual walk) ☐ moderate (brisk walk) ☐ vigorous (jog/run)	
What types of physical activity do you do? HELP2 List:		
How often do you do **muscle strengthening** activities or exercises?	days per week: _____ minutes per day: _____	
How many **"screen-time" hours** do you have each day: TV, video games, sitting at the computer (*not* counting work and school)? HELP2	screen-time hours per day: _____	
How many **total hours sitting** do you have each day (*including* at work and school)?	total sitting hours per day: _____	
On a scale of 1–10, where 1 is low and 10 is high, how ready, willing, and able are you to improve your **activity** habits and stick to it?	(1–10): _____	


None
No Intensity
Light
Moderate
Vigerous
6%
1%
21%
36%
35%
Run/Jog
Walking
Work Activities
Run
Mowing lawns
Walking
Weights
Work activities
Cardio
Walking around office
Weights
Dance
Golf
Chase children
Cardio
Hiking
Yoga
Spinning
Swimming
Pushups
Hiking
Stairs
Situps
TV
Cleaning house
Hiking
Basketball
Walking to store
Cardio
Gym Classes
Bending
Jumping Jacks
X-hit Cardio
P90-X
Squats
Crunches
Bike riding
Basketball
Eliptical
HIIT
X-hit Cardo
Cardio Classes
Gym

STUDY LIMITATIONS

Buy-in from clinical staff

Incomplete patient participation

Limited time frame

TAKE HOME POINTS

- Changes in health outcomes with moderate-intensity physical activity
- Physical activity screening can be complex
- Brief primary care interventions to promote physical activity can be beneficial

ACKNOWLEDGEMENTS

- Clark Madsen, MD
- Marion Gorder
- Patrick Hall
- Porter Clinic Staff

- A Primary Care Guide to Lifestyle and Weight Management: Helping patients find their way to Live Well. Intermountain Healthcare 2015.
- https://www.cdc.gov/physicalactivity/basics/pa-health/index.htm
- https://www.cdc.gov/healthcommunication/toolstemplates/entertainmented/tips/PhysicalInactivity.html
- https://www.cdc.gov/physicalactivity/data/facts.htm
- U.S. Department of Health and Human Services. Physical activity and health: a report of the surgeon general. 1996. http://www.cdc.gov/nccdphp/sgr/sgr.htm.
- Meriwether et al. Physical Activity Counseling. American Academy of Family Physicians. 2008.
- Min Lee et al. Impact of Physical Inactivity on the World's Major Non-Communicable Diseases. Lancet 2012 July 21; 380(9838):219-229.
- Matthews et al. Amount of time spent in sedentary behaviors and cause-specific mortality in US adults. Am J Clin Nutr 2012;95:437-45.
- Diaz et al. Physcial Activity and the Prevention of Hypertension. Curr Hypertens Rep. 2013 December;15(6): 659-668.
- Orrow et al. Effectiveness of physical activity promotion based in primary care:systematic review and meta-analysis of randomized controlled trials. BMJ. 2012;344:e1389.
- Patnode et al. Behavioral Counseling to Promote a Healthful Diet and Physical Activity for Cardiovascular Disease Prevention in Adults Without Known Cardiovascular Disease Risk Factors: Updated Evidence Report and Systematic Review for the US Preventative Services Task Force. JAMA. 2017;318(2):175-193.
- LeFevre et al. Behavioral Counseling to Promote a Healthful Diet and Physical Activity for Cardiovascular Disease Prevention in Adults with Cardiovascular Risk Factors: U.S. Preventative Services Task Force Recommendation Statement. Ann Intern Med. 2014;161:587-593.