

RESEARCH AT THE CWP

KIM ROBERTS & LINDA PAUMER

MY RESEARCH BACKGROUND

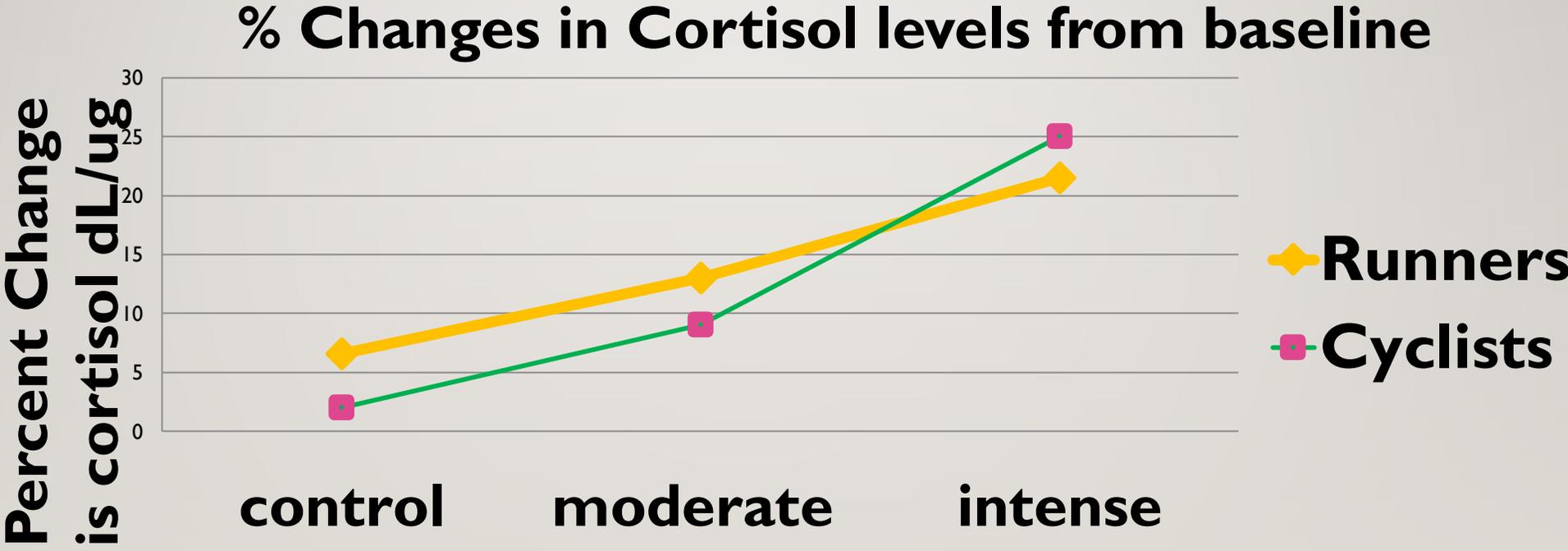
- PhD & MS at Washington State University 1988-1993
 - Neuroscience & Behavior –Novel neuropeptide improves Memory in rats
- Post-Doctoral Fellowship at UC Davis
 - Dr. Rutledge 1993-1996- Effects of Secondhand smoke or cholesterol
- CSUS 1997-present
 - Effects of exercise on Memory & Cortisol levels (moderate vs. intense)
 - Community based Wellness programs & Health* collaborate with Linda
 - Sleep issues during the pandemic in young & older age individuals



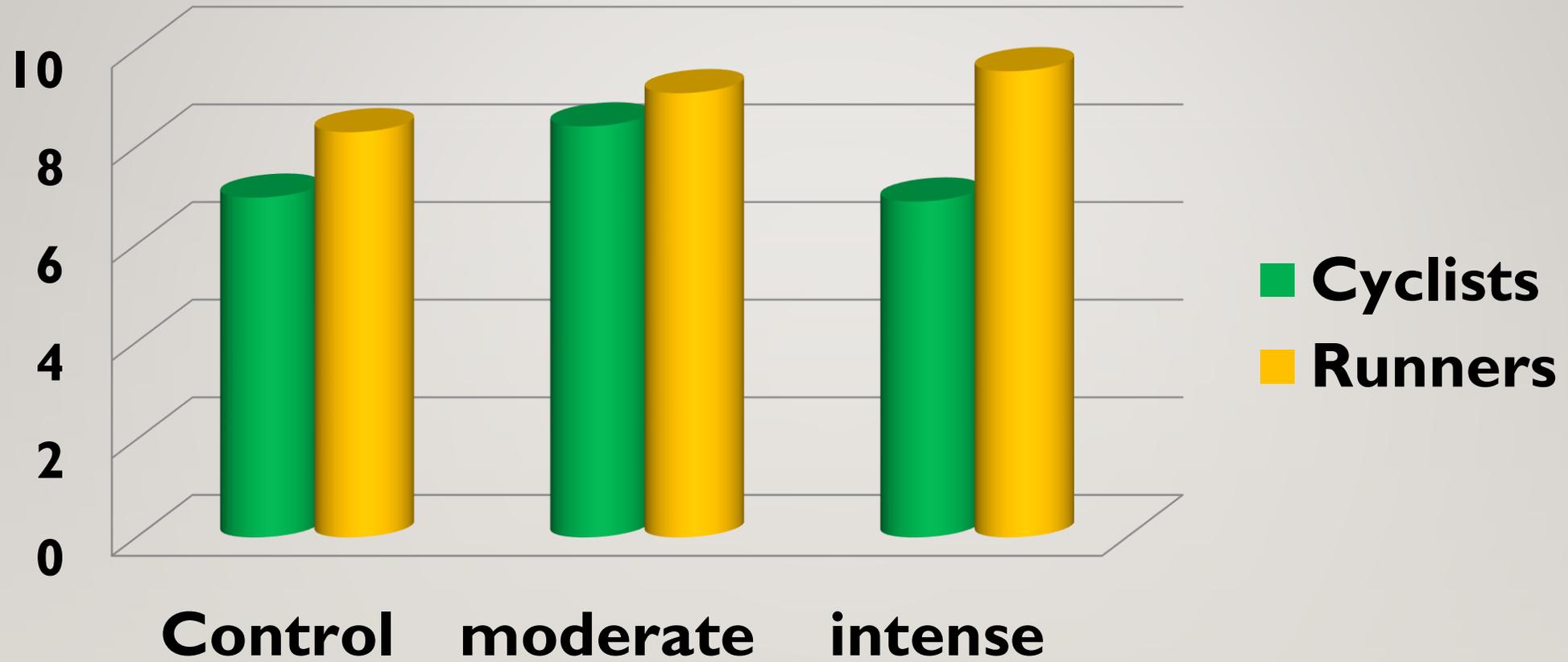
IS TOO MUCH EXERCISE BAD FOR YOUR MEMORY?

- **Moderate exercise seems to improve short-term memory (Tompsonski et al., 2008)**
- Several studies have indicated that exercise that is too intense, like running a marathon, is detrimental to cognitive function (Eich & Metcalfe, 2009).
- **Intense exercising increases in the stress hormone cortisol occur (Hill et al., 2008).**

Changes in Cortisol levels and Cognitive function in Runner's and Cyclists



Recall following exercise



Does a 10-week exercise program improve mental health & cognition in older age individuals-2017

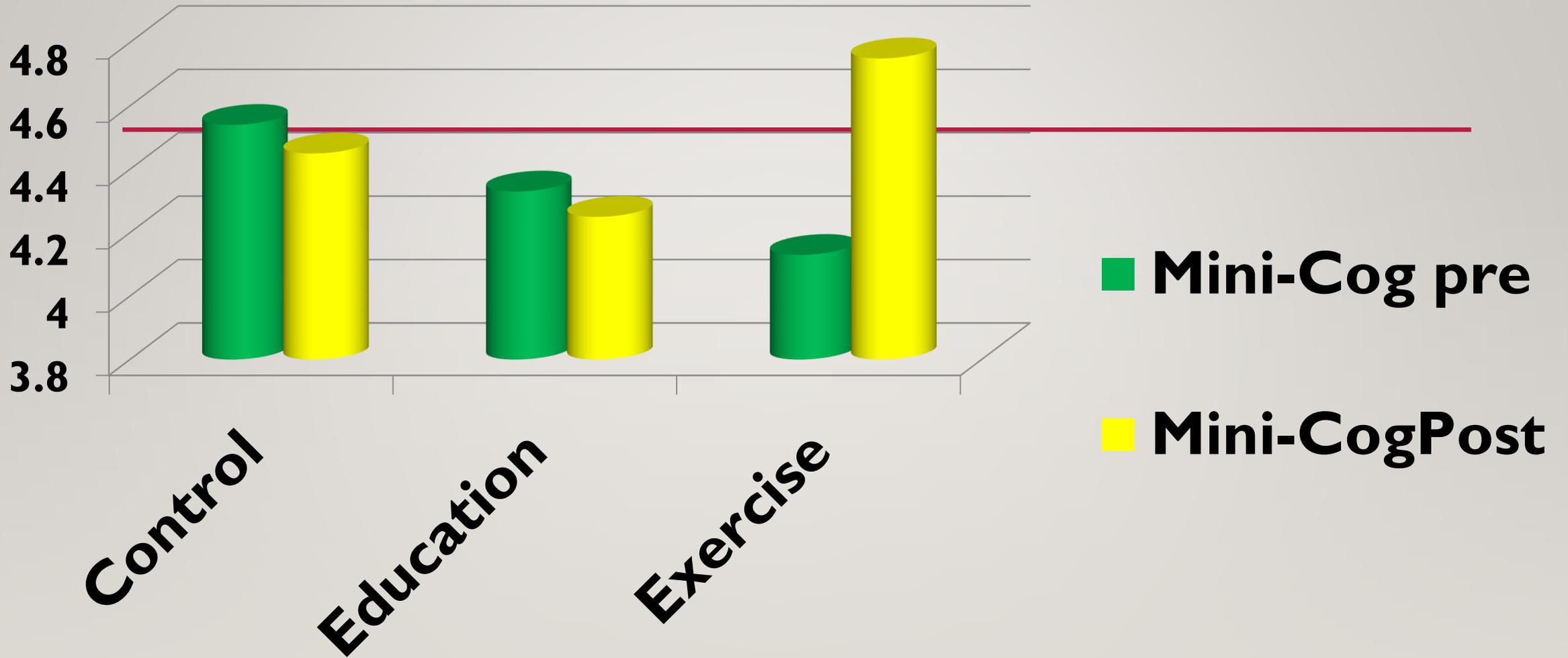
- Test 1 day per week for 10 weeks
 - Heart Rate
 - Blood Pressure
- Depression & Anxiety questionnaire
 - Mini-Cog test

Control Group BP only

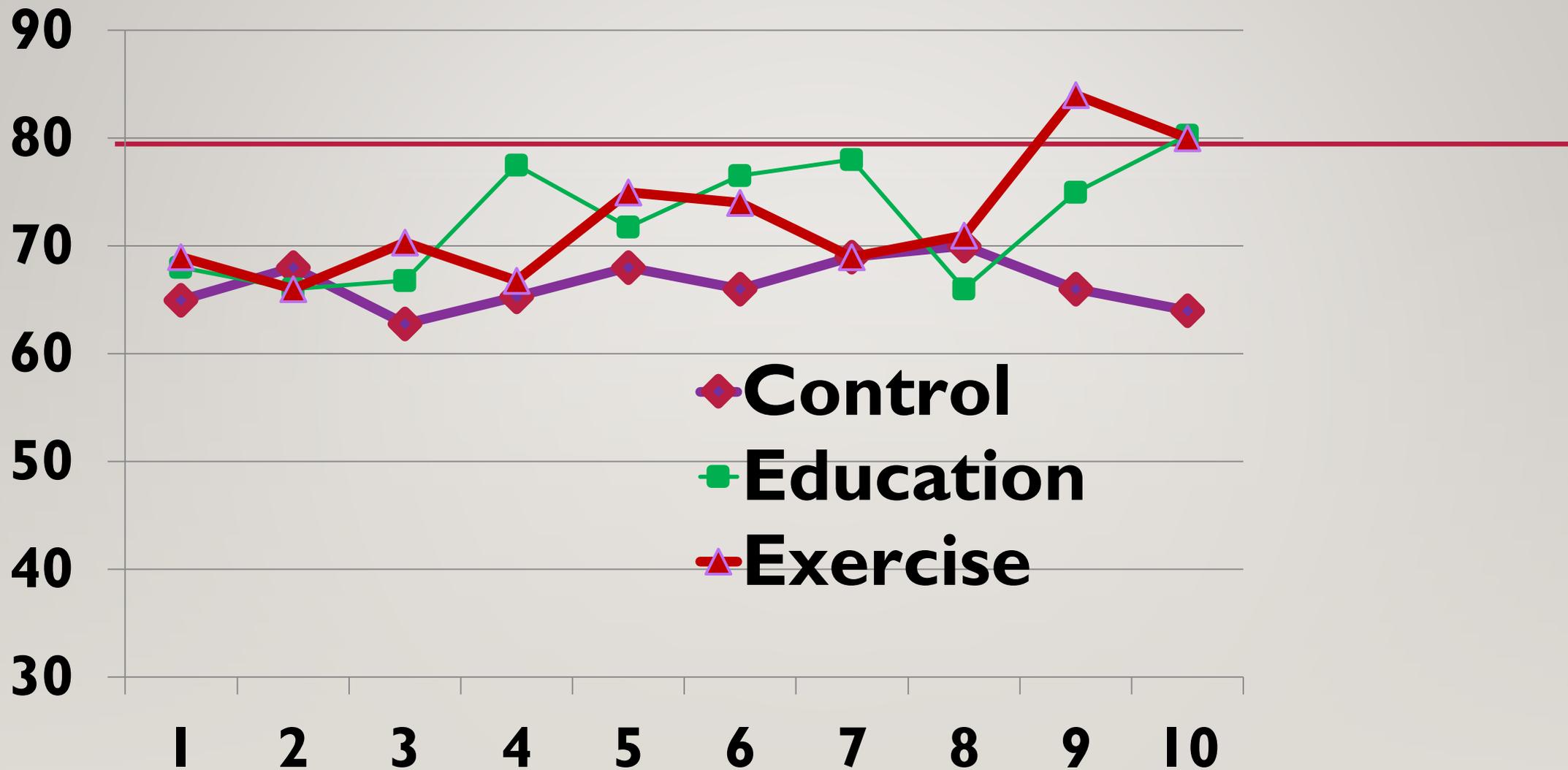
Educational group

Exercise Group

RESULTS



HEART RATES AFTER 10 WEEKS



RESEARCH AT CARDIOVASCULAR WELLNESS PROGRAM CSUS-2018-19!



Pretest:
Heart Rate
Blood pressure
Competitive
Questionnaire
**Mnemonic
Memory Similarity
Task**

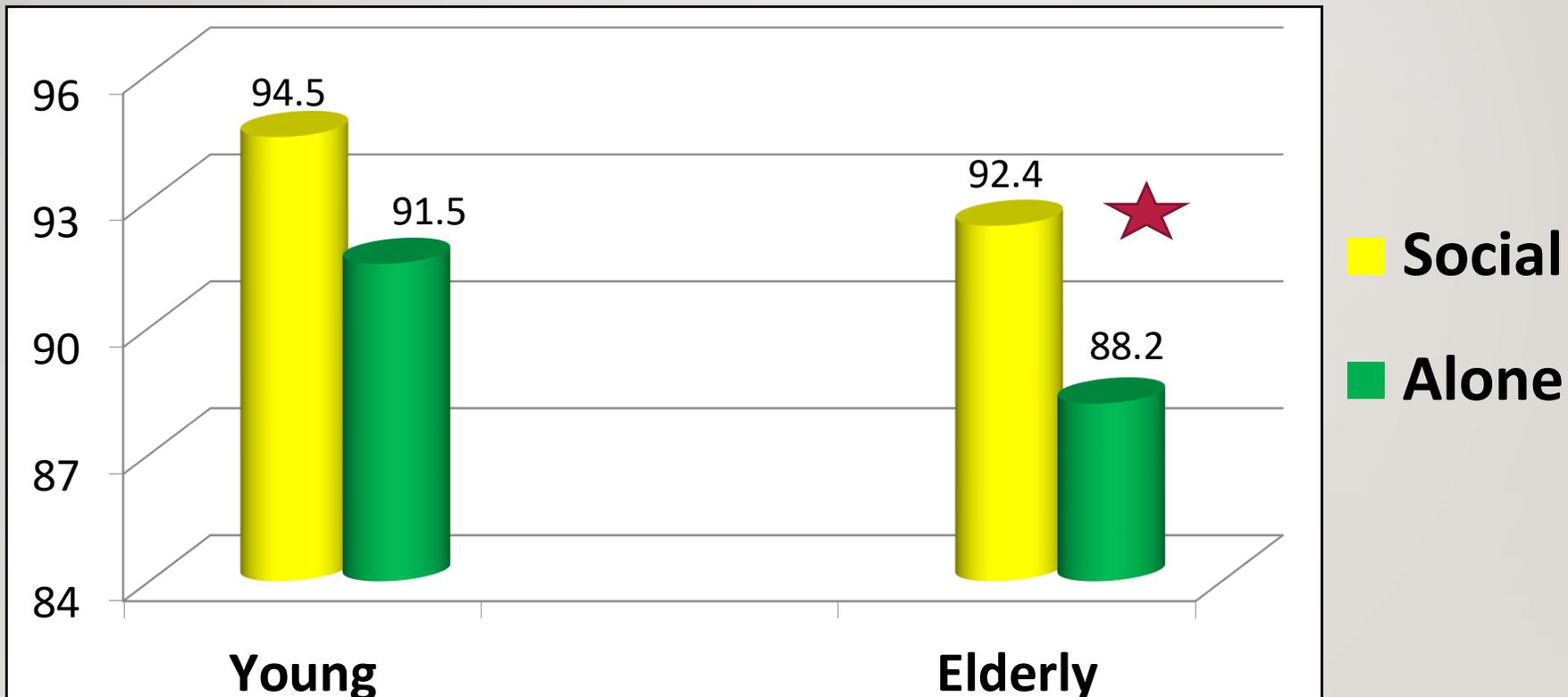
**Posttest: Alone
Condition
Memory Similarity
Task
(MST)**

**Posttest: Social
Condition
Memory Similarity
Task
(MST)**



SACRAMENTO STATE

ELDERLY IMPROVED ON MEMORY TESTS IF THEY EXERCISED SOCIALLY VS. ALONE





RESULTS SLEEP

DURING THE PANDEMIC 2020-2021



THANK YOU FOR PARTICIPATING IN OUR STUDY!

- Sleep is important at *any age but deep sleep decreases as we age!*
- **Good sleep habits discussed include**
 - Going to bed at the same time every night
 - Reduce light (computer or cell phone)
 - Relax before sleeping (exercise earlier in the day no caffeine after 3pm)
 - **Exercise & Get vitamin D & Fresh air!**



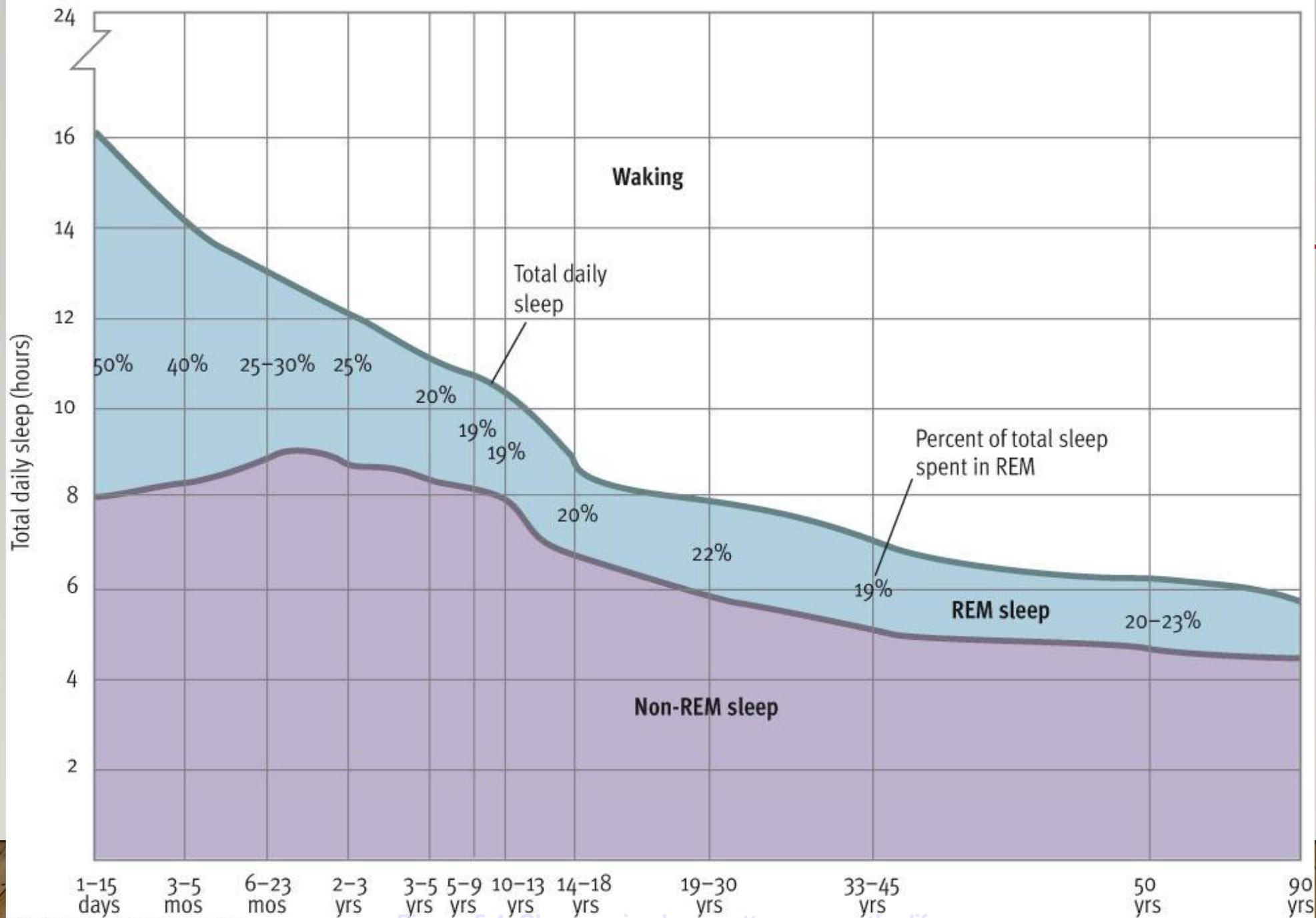


Figure 5.4 Changes in sleep patterns over the life span

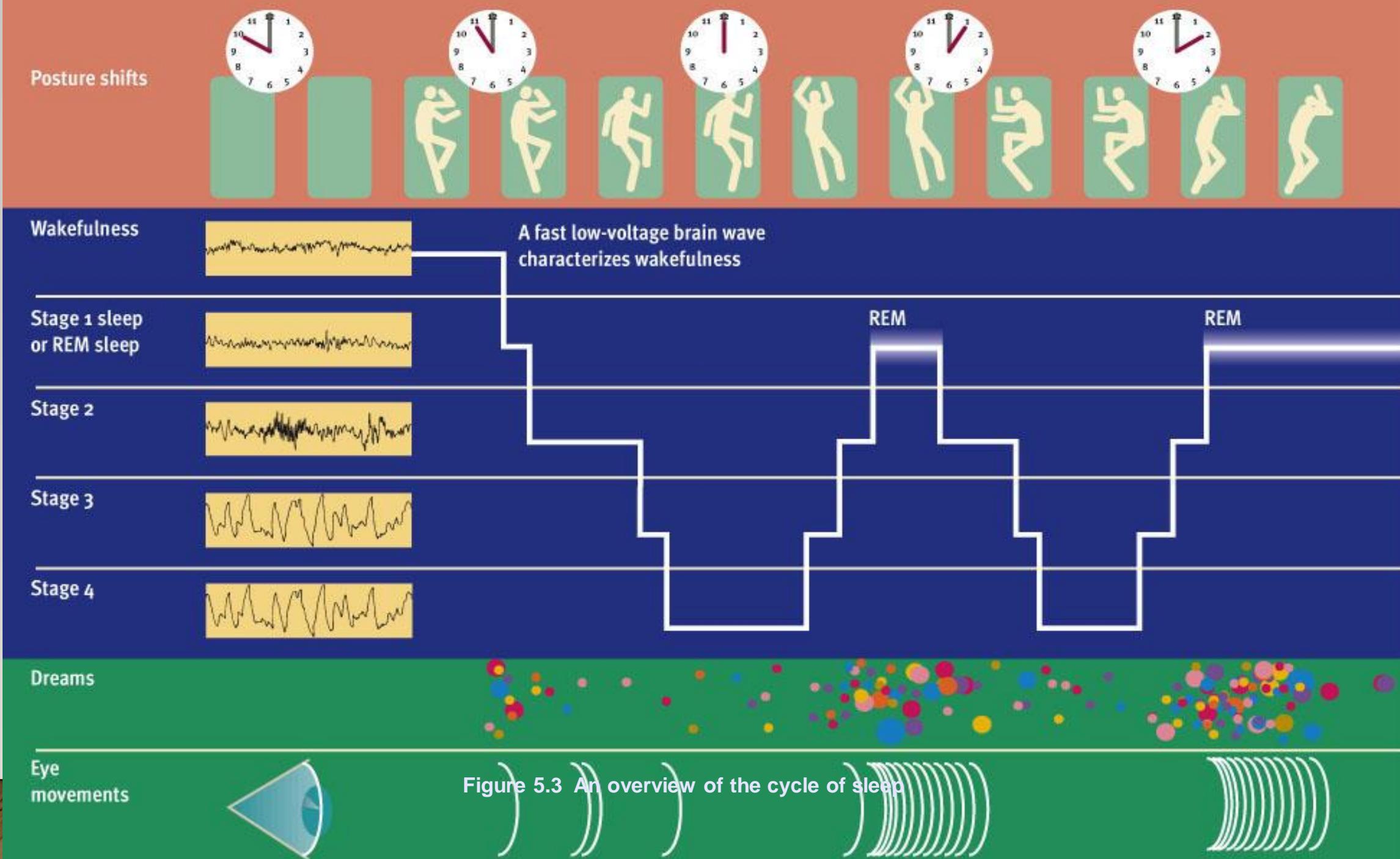
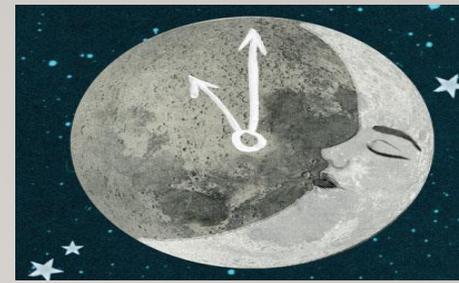
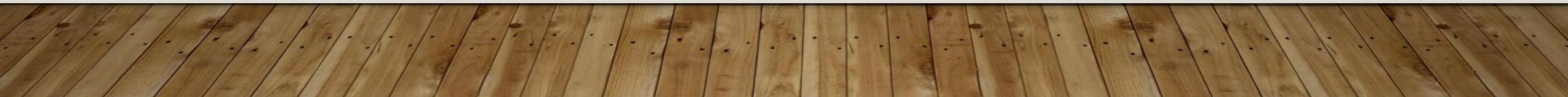


Figure 5.3 An overview of the cycle of sleep



Descriptive Statistics

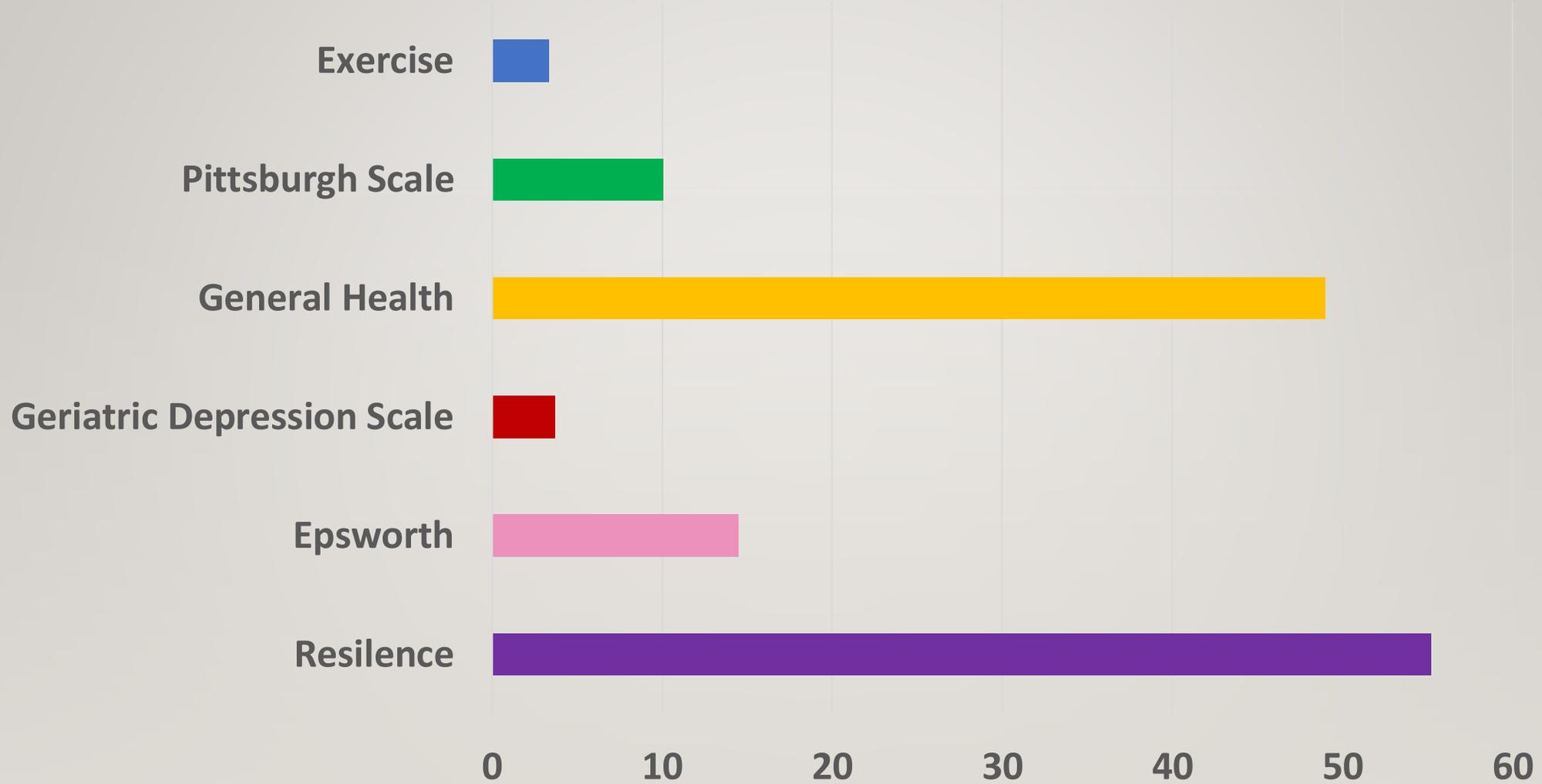
	<u>Mean</u>	<u>SD</u>	<u>N</u>	
• GDSsum	3.71	3.09	41	Geriatric depression scale(score great than 5 depressed
• EPSsum	14.50	5.10	202	Epworth Sleepiness 0-24 Range (high score sleepy)
• PSQI-Global	10.05	9.79	202	Pittsburgh Sleep Quality Index (0-21)
• Physical/Func	66.95	33.89	41	
• Limitations/PHY	63.41	40.34	41	
• Limitations/EM	53.75	28.42	41	
• Energy/Fatigue	39.14	25.63	41	
• Emotion/WELL	53.75	28.24	41	Short form Health Questions SF-36
				Higher scores better health
• SocialFC	67.9878	35.02775	41	
• Pain	58.5366	29.95296	41	
• GeneralHealth	49.02	26.83	41	



DESCRIPTIVE STATISTICS

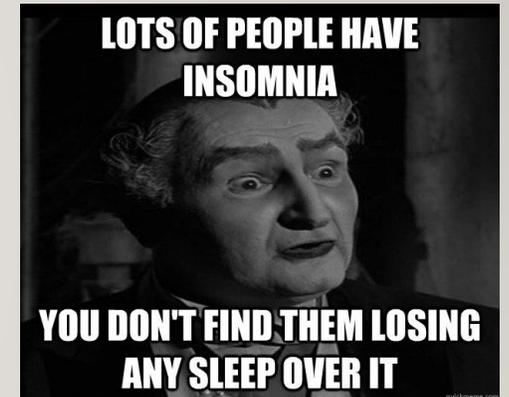
Survey	Mean	SD	N	
• PSleep	10.057	9.76	35	Pittsburgh Sleep survey (Range 0-21)
• RS25	55.18	9.07	35	Resilience 25 Survey (Range 25-175)
• Education level:	2.97	.875	31	
• Exercise per week	3.34	1.471	29	
• What is your age?	70.69	14.026	31	
• Hours Sleep (per night)	4.80*	1.16	35	(recommend 7-8hrs sleep)

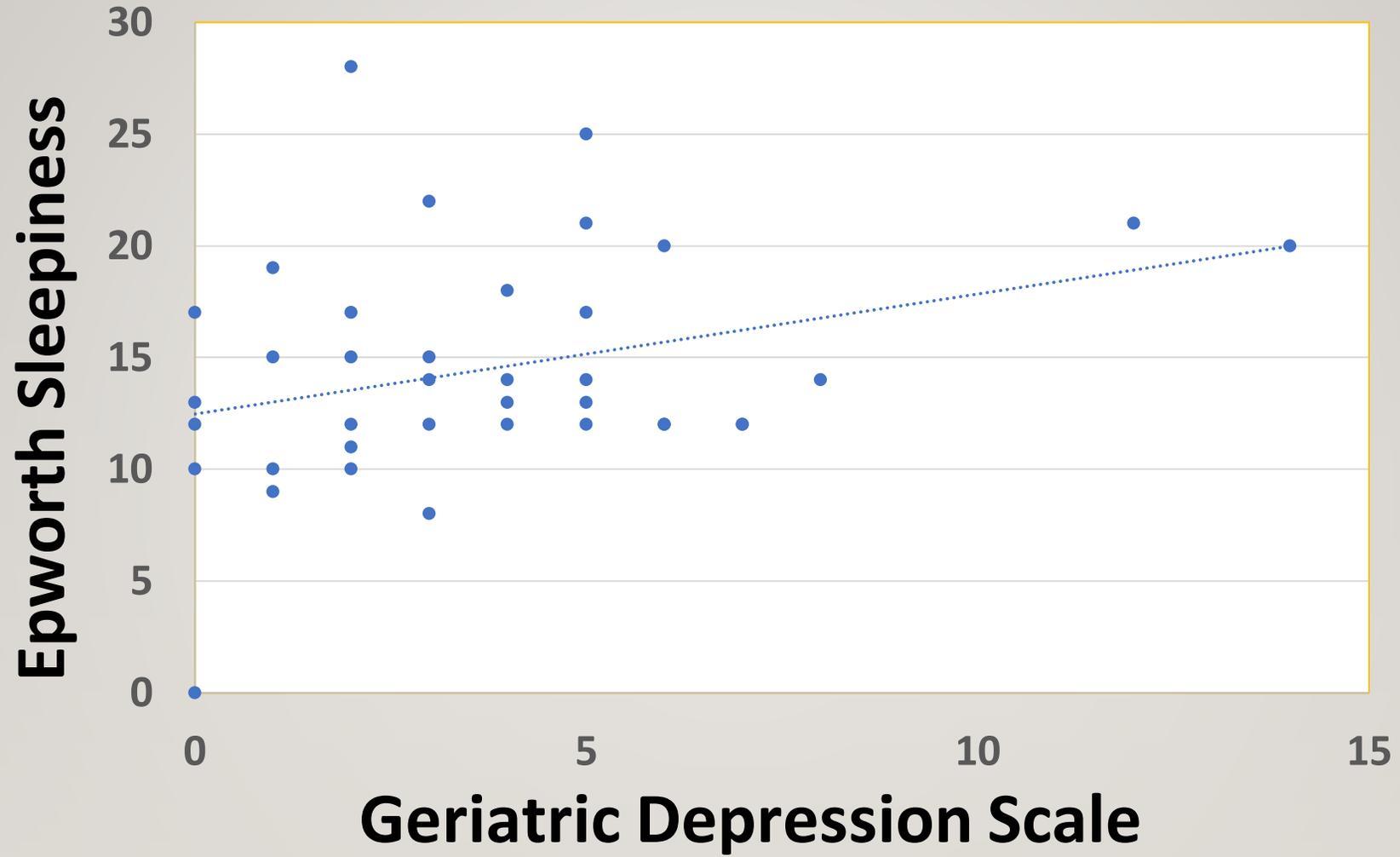
Means



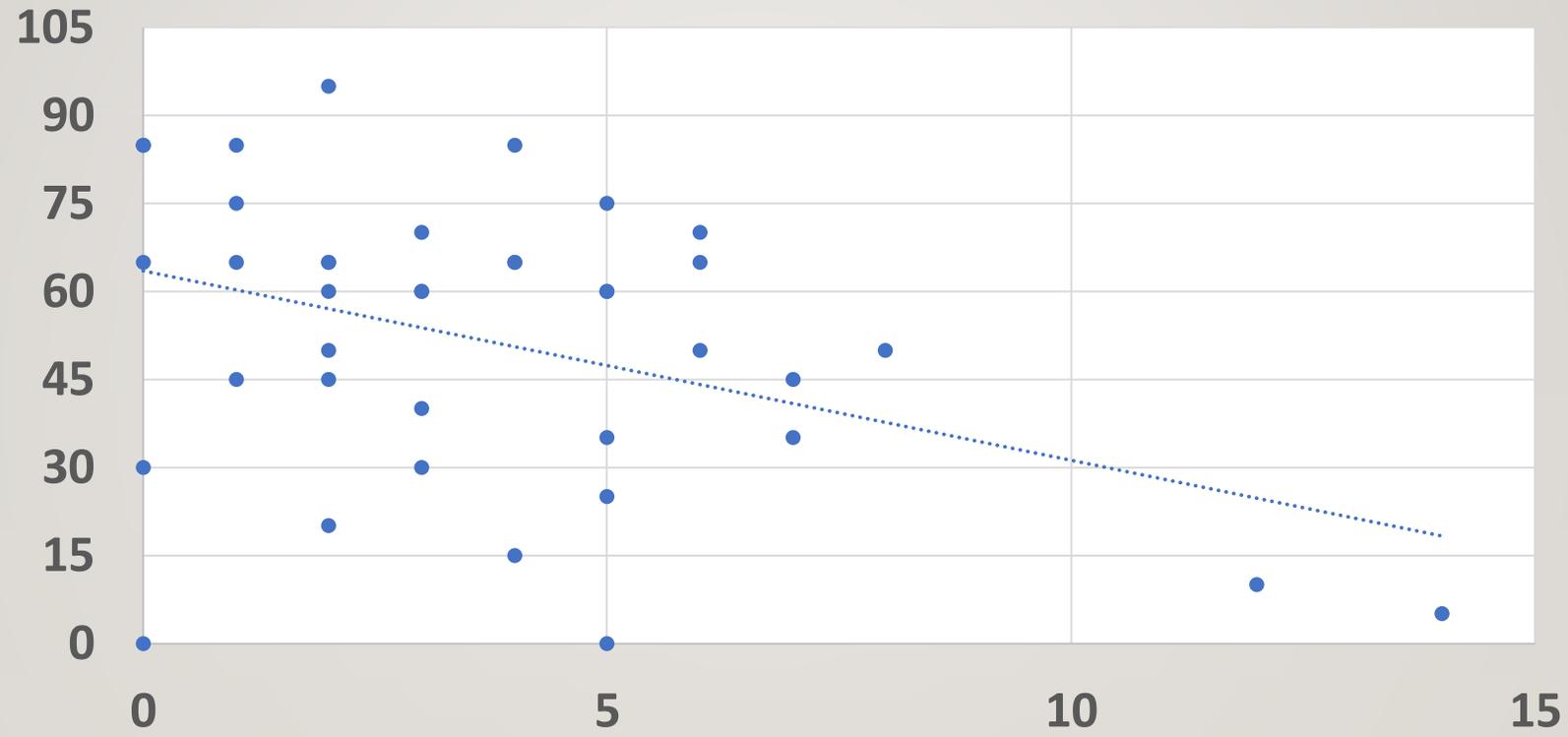
GERIATRIC DEPRESSION SCALE

GDS	Correlations	Significance level
• EP	.327	.045
• Physical Functioning	ns	
• Role limitations due to physical health	-.368	.021
• Role limitations due to emotional problems	-.431	.006
• Energy/fatigue	-.561	.000
• Emotional well-being Social functioning	-.515	.001
• Pain	-.495	.001
• General health	-.398	.001
• Resilience	-.506	.003
• Exercise per week	-.395	.034

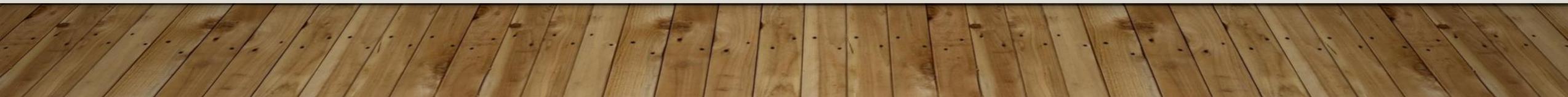




General Health SF-36



Geriatric Depression Scale



EXERCISE PER WEEK

<u>Exercise per week</u>	<u>Correlations</u>	<u>Significance level</u>
• EP	NS	
• Physical Functioning	.447	.015
• Role limitations due to physical health	NS	
• Role limitations due to emotional problems	NS	
• Energy/fatigue	.459	.012
• Emotional well-being Social functioning	NS	
• Pain	.417	.024?
• General health	NS	
• Resilience	NS	
• GDS	-.395	.034



WHAT DOES THE DATA TELL US?



- That if you exercise you are less depressed according to the Geriatric Depression Scale (GDS)
- No one in this group is significantly depressed (based on GDS)!
- Neither Age nor gender had a significant impact on your sleep habits.
- You do experience some Sleepiness during the day (Groups mean was $M = 14$ average is 10) especially if you scored high on the GDS (Positive correlation)
- No Major sleep issues within your group based on Pittsburgh Sleep scale
- **Mean number hours you sleep as a group is 4.80. Try to add 2 more hours for a healthy sleep cycle!**

Descriptive Statistics

	Mean	Std. Deviation	N
Please indicate your fitness level:	2.45	1.312	31
Please indicate your stress level:	2.55	0.995	31
Association with CSUS Cardiovascular Wellness Program	2.06	0.512	31
What is your age?	70.69	14.026	31
Hours of Sleep per Night. During the past month, how many hours of actual sleep did you	4.80	1.106	35

HOW DO OLDER ADULTS COMPARE TO YOUNG?

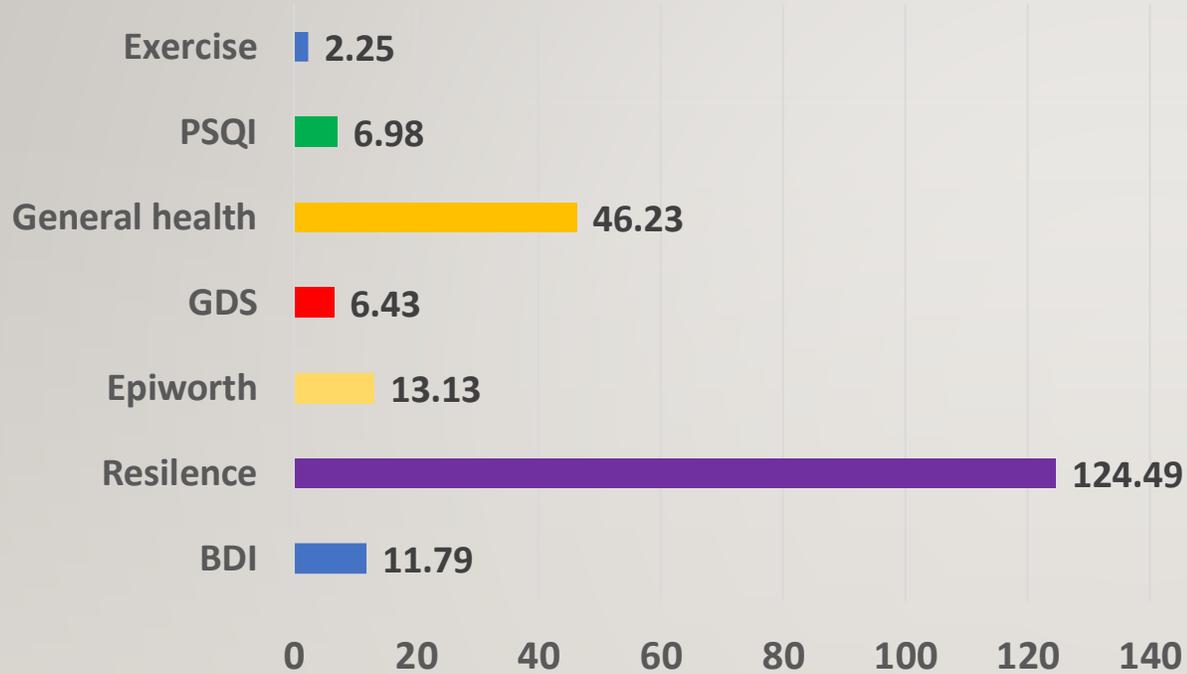
OLDER ADULTS

	Mean	SD
• GDSsum	3.43	2.00
• EPSsum	14.5	5.10
• PSQI-Global	10.98	2.79
• Physical/Func	66.9512	33.89097
• Limitations/PHY	63.4146	40.34909
• Limitations/EM	60.9744	43.39911
• Energy/Fatigue	39.1463	25.63938
• Emotion/WELL	53.7561	28.2425
• GeneralHealth	49.0244	26.83793
• SocialFC	67.9878	35.02775
• Pain	58.5366	29.99
• Resilience	55.09	9.07

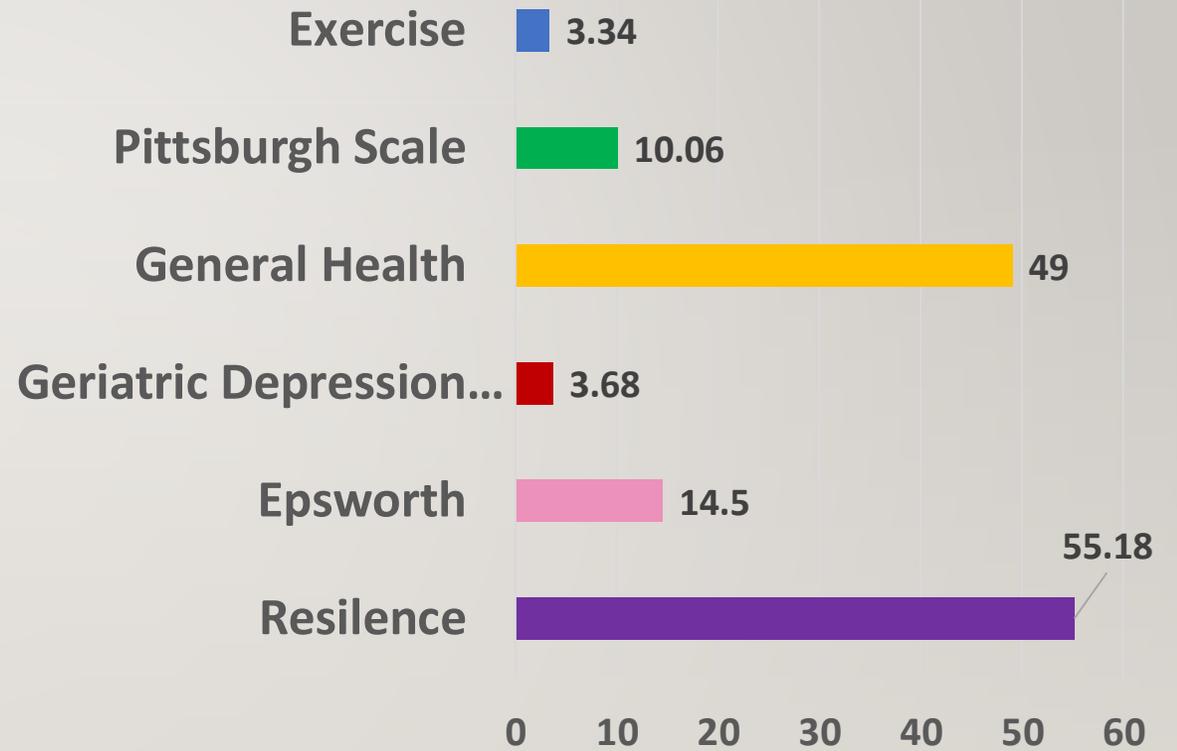
YOUNG ADULTS

	Mean	SD
• GDSsum	6.43	4.00
• BDI	11.79	8.34
• EPSsum	6.43	4.00
• PSQI-Global	6.98	2.79
• Physical/Func health	44.95	14.40
• Limitations/PHY	64.495	38.80
• Limitations/EM	51.84	30.32
• Energy/Fatigue	38.97	20.7
• Emotion/WELL	51.84	30.32
• General Health	46.23	28.17
• SocialFC	73.84	33
• Pain	58.54	29.2
• Resilience	124.49	38.89

Means College Students



Means Older age



NATURAL SLEEP AIDS

- Tryptophan and serotonin foods
- Calcium (yogurt Milk)
- **Magnesium** (walnuts, cherries, bananas, kiwi, Pistachios)
- Essential oils
- **Melatonin** (gummies 2.5mg) St. John's wort * Ask Doctor before taking anything
- Weighted Blankets? (Interesting discussion)

TOO MANY CATSI



FUTURE STUDIES

- Does balance exercises reduce the participants fear of falling?
- What Exercises that work most effectively for balance?
- Does the lack of Sleep reduce your balance significantly?
- Weighted Blankets and sleep?



KEEP EXERCISING!



It will help you sleep & improve your memory!

Thank you again for your participation!

You are all amazing!

