Sleep Over Squats

Outline

MORE SLEEP , LESS STRESS

▶ Good Sleep & Low Stress group shows the highest median weight change, close to zero or slightly positive, with relatively tight variation.

Weight Change by Sleep and Stress Groups
Colored by Sedentary Lifestyle

MORE SLEEP , LESS STRESS

▶ Poor Sleep & High Stress group experiences the largest median weight loss and greatest variability, with several extreme outliers below -30.

▶ Weight change tends to be worse (more negative) with high stress regardless of sleep quality, highlighting stress as a key factor in weight loss.

EARLY ADULTS ~ AND STRESSED

▶ Early Career Professionals - 30-39 suffer the most severe weight loss (-7.7 lbs) with poor sleep – **5x worse** than their well-rested peers ($+1.6$ lbs).

▶ High stress causes greater weight loss (-9.1 lbs in 30-39 group) than any exercise benefit, with effects compounding when combined with poor sleep (-10+ lbs).

▶ Women maintain more stable weight (-1.8 to -3.5 lbs changes) while men show extreme drops, especially teen males (-5.3 lbs vs. -1.8 lbs for females).

Table 1: Weight Change Summary

Gender	age_group	mean_weight_change	median_weight_change	
F	Adults (20-29)	-1.0181151	-0.3680584	10
F	Early Career (30-39)	-2.4545587	-1.3943583	11
F	Middle-aged (40-49)	-3.4805916	0.7000000	12
F	Preretirement (50-64)	-1.5639095	0.0000000	9
F	Teenagers (<20)	-1.7940640	-1.7940640	1
M	Adults (20-29)	-2.3794779	-0.1679132	14
M	Early Career (30-39)	-5.5847844	0.6000000	12
M	Middle-aged (40-49)	-3.7051828	0.4500000	12
M	Preretirement (50-64)	-0.8648233	-0.3807078	14

DOES PHYSICAL ACTIVITY MAKE A DIFFERENCE ?

▶ Physical activity shows *no significant effects*
▶ Sleep-stress model explains **45.5%** of weight variation ($R^2=0.455$)
▶ Low stress provides **+5.8 lbs** protection ($p<0.05$)

DOES PHYSICAL ACTIVITY MAKE A DIFFERENCE ?

	Sleep-Stress Interaction	Stress-Age Interaction
(Intercept)	1.758	-0.315
	(6.660)	(1.510)
sleep_riskPoor Sleep	-7.168***	
	(2.704)	
stress_riskLow Stress	5.800**	
	(2.717)	
physical_activityModerately Active	-1.142	
	(1.893)	
physical_activitySedentary	-0.539	
	(1.982)	
physical_activityVery Active	-1.076	
	(2.311)	
age_groupEarly Career (30-39)	-2.976	0.653
	(1.875)	(2.135)
age_groupMiddle-aged (40-49)	-2.226	0.107

Policy Focus: Sleep & Stress > Gym Memberships

▶ Redirect 90% of corporate wellness budgets from gyms to
sleep/stress interventions for employees aged 30-39, where
data shows 10x greater ROI potential.