The Prevalence of the "Freshman 15" in First Year Male and Female Students

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Introduction

- The "Freshman 15" refers to the 15 lbs a student gains during the first year of college.
- While little, if any evidence supports gaining 15 lbs, two-thirds of first year students gain weight to some degree.

Purpose

To determine whether weight gain occurs, whether there are differences by gender, and to identify the factors that may contribute to weight gain during the first semester of college.

Methods

- Obtained IRB approval from CSB/SJU and received informed consent forms.
- Initially recruited 26 female and 41 male participants, but only 10 females and 10 males completed the study.
- Baseline measurements collected in September. Follow-up measurements collected in January.
- Collected direct measurements for weight, height, hip and waist circumference and body composition measurements using the QuadScan 4000.
- Participants were emailed a link to a survey containing questions about the "Freshman 15", the Paffenbarger Physical Activity Questionnaire, and the Automated, Self Administered 24-hour Dietary Recall (ASA-24).
- Data analyzed for statistical significance using a 2-Tailed T-Test and with ANOVA using SPSS.

Do Students Believe in the "Freshman 15?"

Strongly Agree 16%
Somewhat Agree 46%
Agree 15%
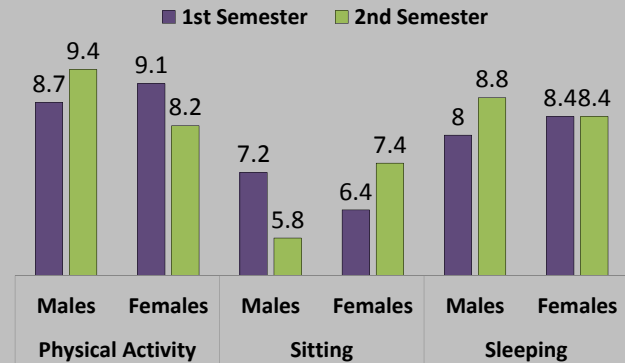I Don't Know 15%
Disagree 8%
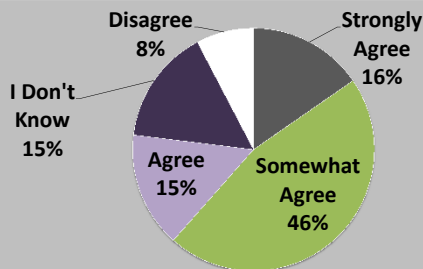
Body Composition Results

- 75% of students gained weight, but weight gain was non-significant for both males and females.
- Survey reported females wanted to lose or maintain weight and males wanted to maintain or gain weight.
- 2 females lost weight (avg. <1 lbs, range: .25 to 1.2 lbs), 8 gained weight (avg. 1.6 lbs, range: 0.2 to 3.2 lbs).
- 3 males lost weight (avg. 5.1 lbs, range: 3 to 6.7 lbs), 7 gained weight (avg. 4.7 lbs, range: 0.6 to 12.9 lbs).
- The percentage of overweight BMIs for females ↓ from 42% to 40% and ↑ from 41% to 50% in males.
- Height, weight, % fat mass (FM), lean body mass (LBM) and waist circumference did not significantly change for males and females. Hip circumference significantly ↑ (2.5 in) for males (p=.004).

	Weight Range (lb)	Average Weight (lb)	Average % FM	Average LBM (lb)	Max. Weight ↓	Max. Weight ↑
Males						
Time 1	136-230	173.6	9.5	129.3		
Time 2	132-243	175.2	11.3	129.2	6.7	12.9
Females						
Time 1	114-160	136.3	23.5	85.9		
Time 2	113-163	134.9	25.5	84.6	1.2	3.2

Diet and Physical Activity Results

- Trends towards ↓ physical activity (PA) and ↑ sitting activity for females, and ↑ PA for males.
- 80% of participants indicated they "exercise enough to stay healthy."
- Participants reported engaging in 2-3 sports or activities in durations consistent with The Physical Activity Guidelines for Americans.
- Initial diets appear to be low in calcium (F=971 mg) fiber (F=15 gm, M=19 gm) and vitamin D (F=5 mcg, M=9 mcg) and high in sodium (F=4200 mg, M=4440 mg) and sugar (F=72gm, M=149 gm).

Hours Spent Sitting, Sleeping or Being Active

1st Semester / 2nd Semester

Physical Activity — Males: 8.7, 9.4; Females: 9.1, 8.2
Sitting — Males: 7.2, 5.8; Females: 6.4, 7.4
Sleeping — Males: 8, 8.8; Females: 8.4, 8.4

Conclusion

- The majority of males (70%) and females (80%) did gain weight but only 1 pound on average, not 15.
- Average percent body fat for males (11.3%) and females (25.5%) remained within normal ranges.
- However, % FM ↑ for 70% of participants and 40% of females were near obese classifications.
- ↓ in overweight BMIs for females likely due to drop out rate.
- No correlation between PA and weight, % FM, or LBM.
- Participants commented that all-you-can-eating dining makes it difficult to control portion sizes and make healthy food choices.
- Dietary changes could not be assessed due to incompletion of the ASA-24.
- Relatively small sample size may indicate students only comfortable with their body size participated.

Acknowledgements