



Self-Reported BMI Change and Juice Consumption, by Poverty Status in California

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Introduction

- **Weight control has become a major issue of the times with 61.3% of California adults being classified as overweight or obese.**
- **The 2009 BRFSS survey included a retrospective question on body weight the previous year allowing for the calculation of BMI change.**



Objective

- **Examine socio-demographic factors related to self-reported BMI change.**
- **Is the association correlated with poverty status?**

(the *Network* target population is \leq 185% of the Federal Poverty Level (FPL))



Method

- **Self-reported change in weight was used along with self-reported height to calculate individual BMI change.**
- **Pregnant and post-partum women with a child 1 year or younger were removed from the dataset.**
- **Multiple regression model using SAS PROC SURVEYREG with BMI change as the dependent variable.**



Independent Variables

- Juice consumption, times per day.
- Fruit and vegetable consumption (no juice), times per day.
- Poverty status (Food Stamp users, $\leq 130\%$ FPL, 131 – 185% FPL, $>185\%$ FPL).
- Age (continuous).
- Gender.
- Ethnic group (White, African-American, Latino/Hispanic, Other).
- Education Level (<HS, HS grad, Some College, College grad).



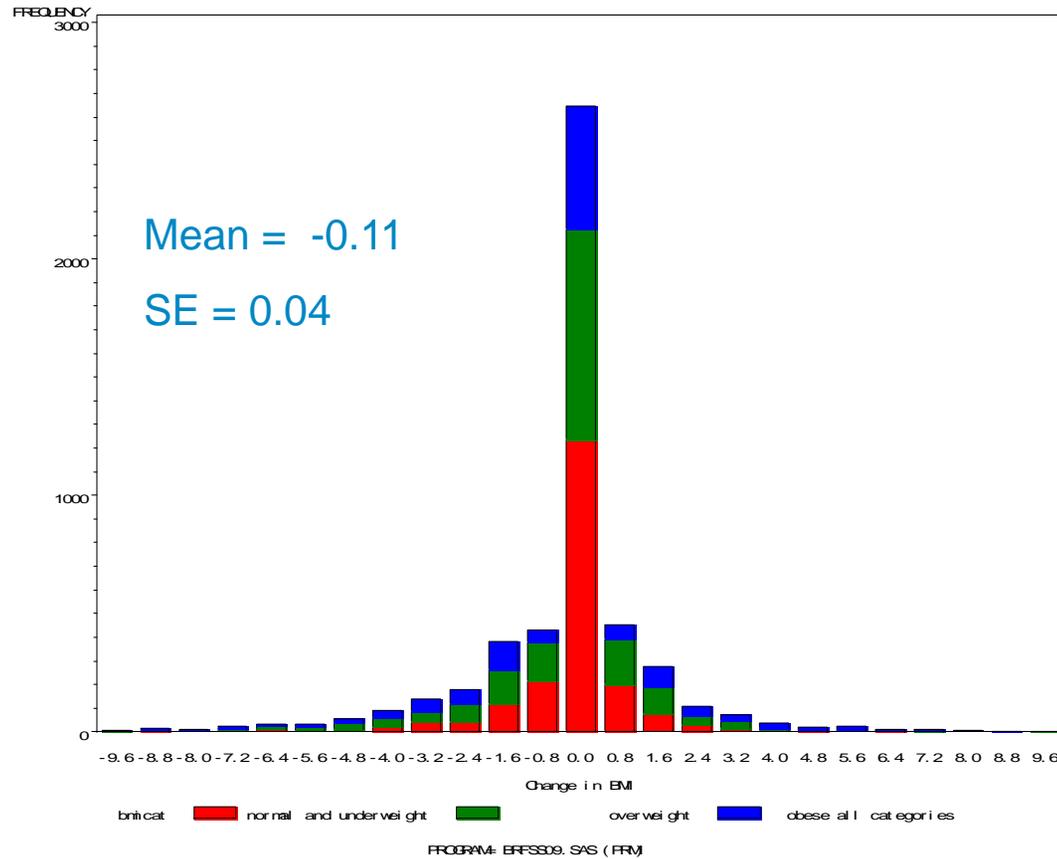
Results

- **4,183 respondents from the 2009 California BRFSS had answered the weight change question and all socio-demographic questions in the analysis, including a *Network*-purchased question on Food Stamp use.**
- **This represents only 1/3 of the possible BMI sample since we wanted to pair them to our purchased questions which only appear in track one out of three tracks .**



Distribution of BMI Change by BMI Category shows that most adults remained about the same

2009 California BRFSS



Regression Results

Class Level Information

Class

Variable Values

SEX FEMALE MALE

_RACEGR African-American Latino/HISPANIC OTHER WHITE

EDUCA College grad, HS Grad/GED, Less than HS, Some college/tech school

FSPOV4 131-185 (no FS), >185 (no FS), <=130%FPL(No FS), Food Stamp

Tests of Model Effects

Effect	Num DF	F Value	Pr > F
Model	13	3.03	0.0002
Intercept	1	3.58	0.0586
juice94	1	5.82	0.0159
Fruit and Veg	1	5.02	0.0252
FSPOV4	3	0.37	0.7778
AGE	1	11.32	0.0008
SEX	1	3.80	0.0514
_RACEGR	3	0.20	0.8931
EDUCA	3	0.64	0.5867

NOTE: The denominator degrees of freedom for the F tests is 4182.

Orange indicates $p < .05$.





Estimated Regression Coefficients for BMI Change

Parameter	Estimate	Standard Error	t Value	Pr > t
Intercept	0.2872246	0.30173423	0.95	0.3412
juice94	0.1822889	0.07554798	2.41	0.0159
Fruit and Veg	-0.0406851	0.01816586	-2.24	0.0252
FSPOV4 131-185(no FS)	-0.2676479	0.29368083	-0.91	0.3622
FSPOV4 >185 (no FS)	-0.1567239	0.26175638	-0.60	0.5494
FSPOV4 <=130%FPL(No FS)	-0.2071925	0.26886400	-0.77	0.4410
FSPOV4 Food Stamp	0.0000000	0.00000000	.	.
AGE	-0.0084494	0.00251160	-3.36	0.0008
SEX FEMALE	0.1692783	0.08685551	1.95	0.0514
SEX MALE	0.0000000	0.00000000	.	.
_RACEGR African-American	0.0235079	0.26263766	0.09	0.9287
_RACEGR Latino/HISPANIC	0.0993122	0.12670135	0.78	0.4332
_RACEGR OTHER	0.0077776	0.15113695	0.05	0.9590
_RACEGR WHITE	0.0000000	0.00000000	.	.
EDUCA College grad	0.1396206	0.11082086	1.26	0.2078
EDUCA HS Grad/GED	0.0426555	0.14576058	0.29	0.7698
EDUCA Less than HS	0.1122203	0.17254981	0.65	0.5155
EDUCA Some college/tech school	0.0000000	0.00000000	.	.

Orange indicates $p < .05$.



Conclusion

- **Juice consumption was associated with a gain in BMI while whole fruit and vegetable consumption was associated with a loss in BMI, regardless of poverty/Food Stamp participation status.**



Dietary Recommendations

“Although 100% fruit juice can be part of a healthful diet, it lacks dietary fiber and when consumed in excess can contribute extra calories. The majority of the fruit recommended should come from whole fruits, including fresh, canned, frozen, and dried forms, rather than from juice. “

U.S. Department of Agriculture and U.S. Department of Health and Human Services. *Dietary Guidelines for Americans, 2010*. 7th Edition, Washington, DC: U.S. Government Printing Office, December 2010.



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CalFresh provides assistance to low-income households and can help buy nutritious foods for better health. For CalFresh information, call 1-877-847-3663. For important nutrition information, visit <http://www.cdph.ca.gov/programs/CPNS>



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