

FOOD INSECURITY AND STRESS AS COMMON CHALLENGES TO OPTIMAL NUTRITION DURING PREGNANCY

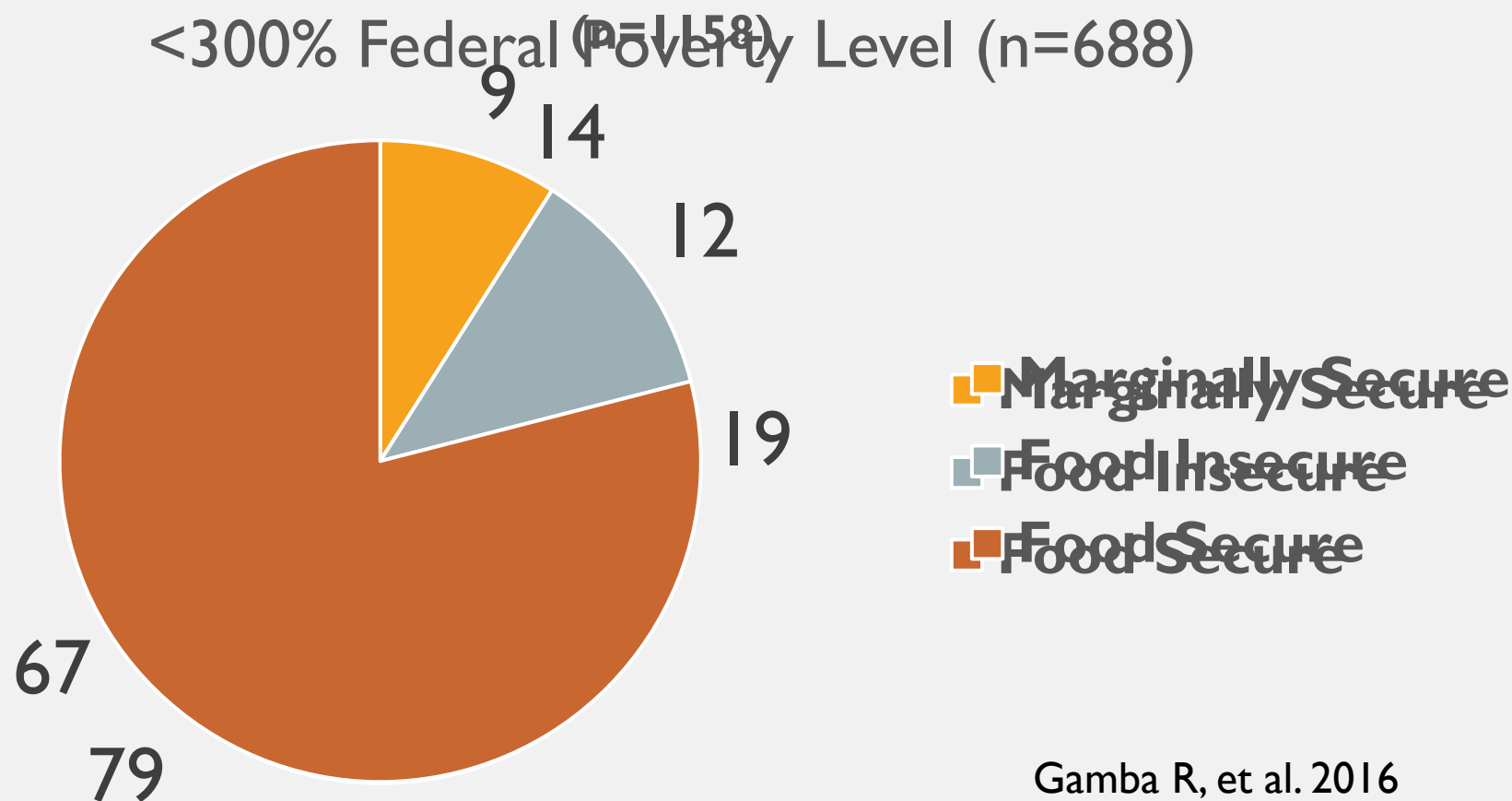
National Academies of Sciences

Nutrition during Pregnancy and Lactation

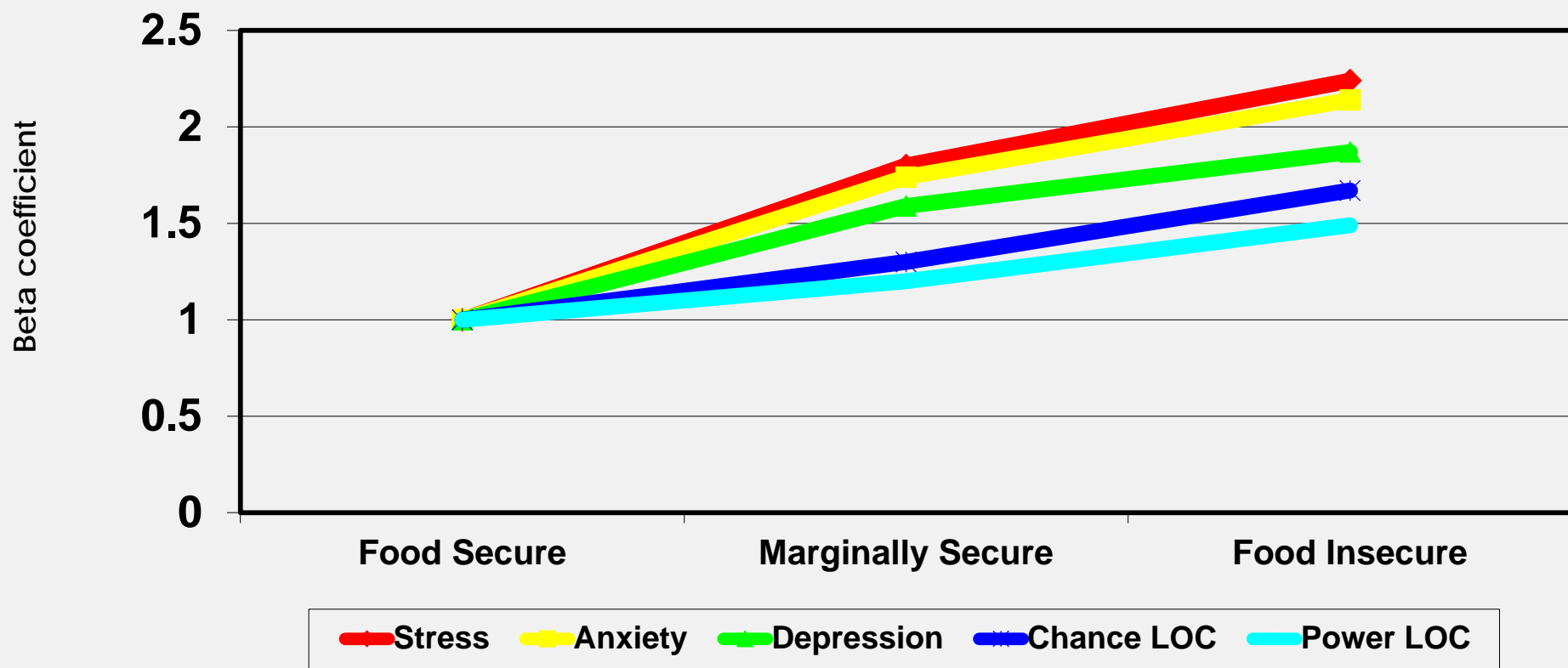
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PREVALENCE FOOD INSECURITY DURING PREGNANCY NHANES 1999-2008



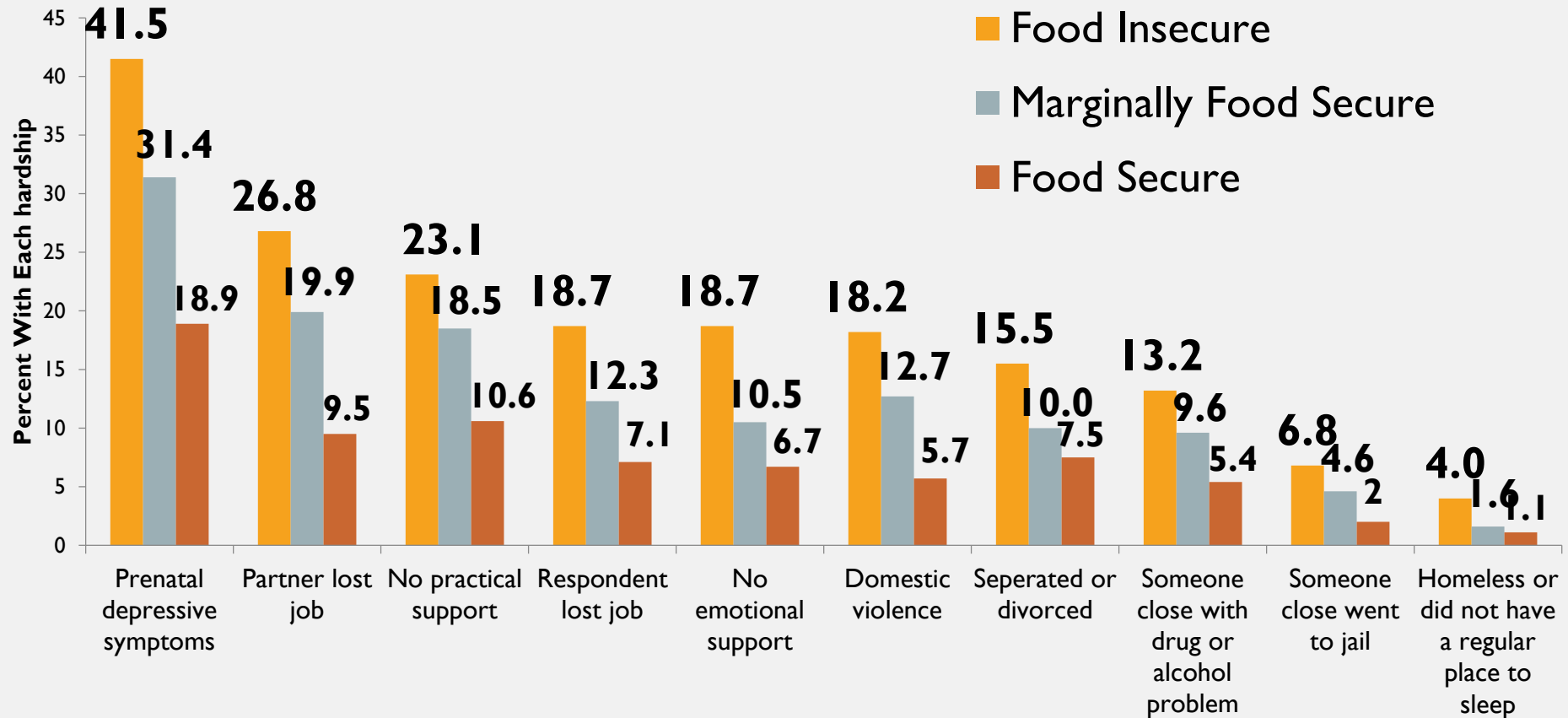
ASSOCIATION OF PSYCHOSOCIAL FACTORS AND FOOD SECURITY STATUS



* Adjusted models controlling for age, children, education, income, race, and marital status

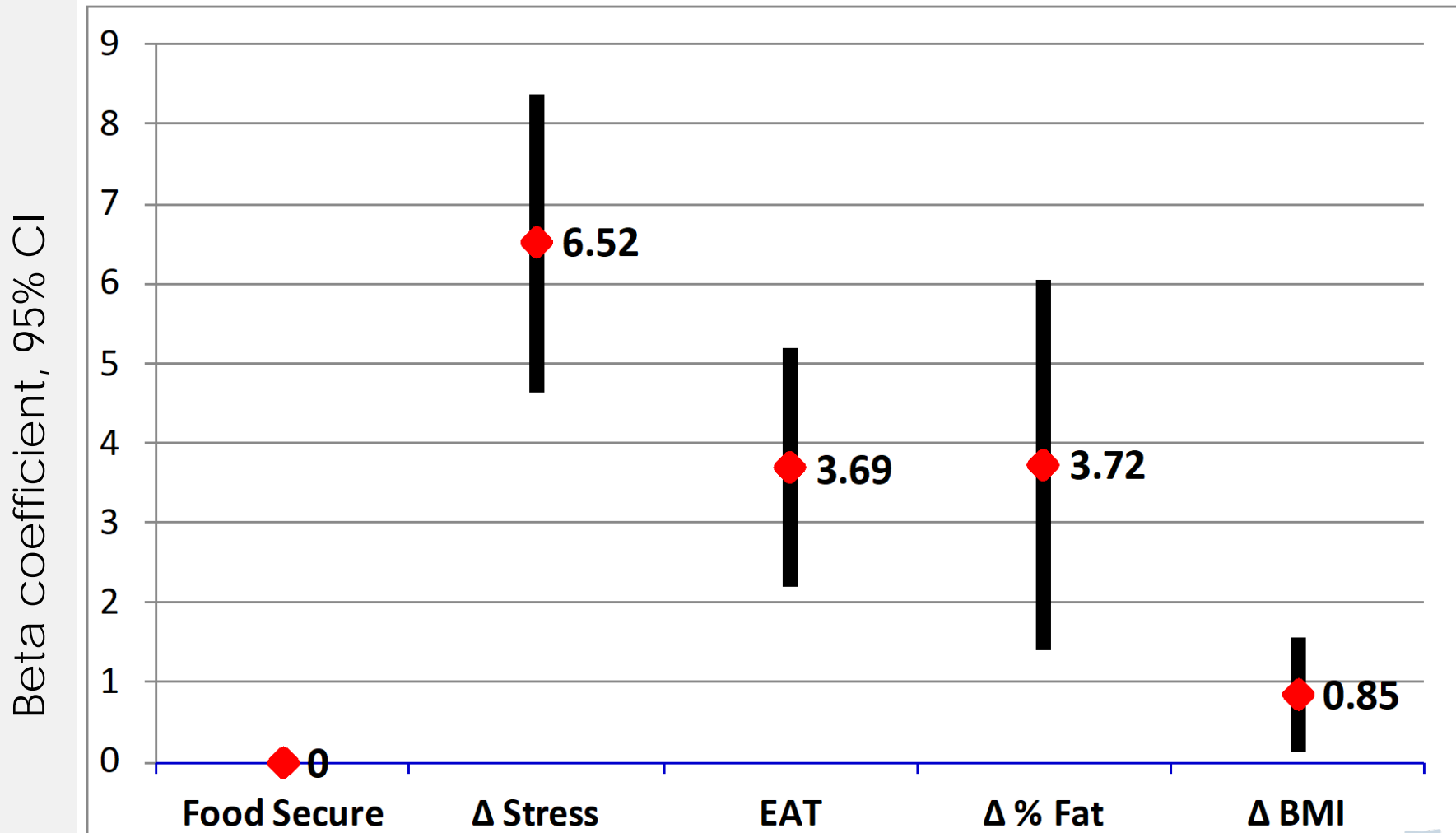
PREVALENCE OF ADVERSE LIFE EVENTS BY FOOD SECURITY STATUS

(MIHA 2010 – 2012 N=20,480)



POSTPARTUM FOOD INSECURITY

↑ STRESS, ↑ EAT, ↑ % ENERGY FROM FAT, ↑
BMI AT 12 MONTHS

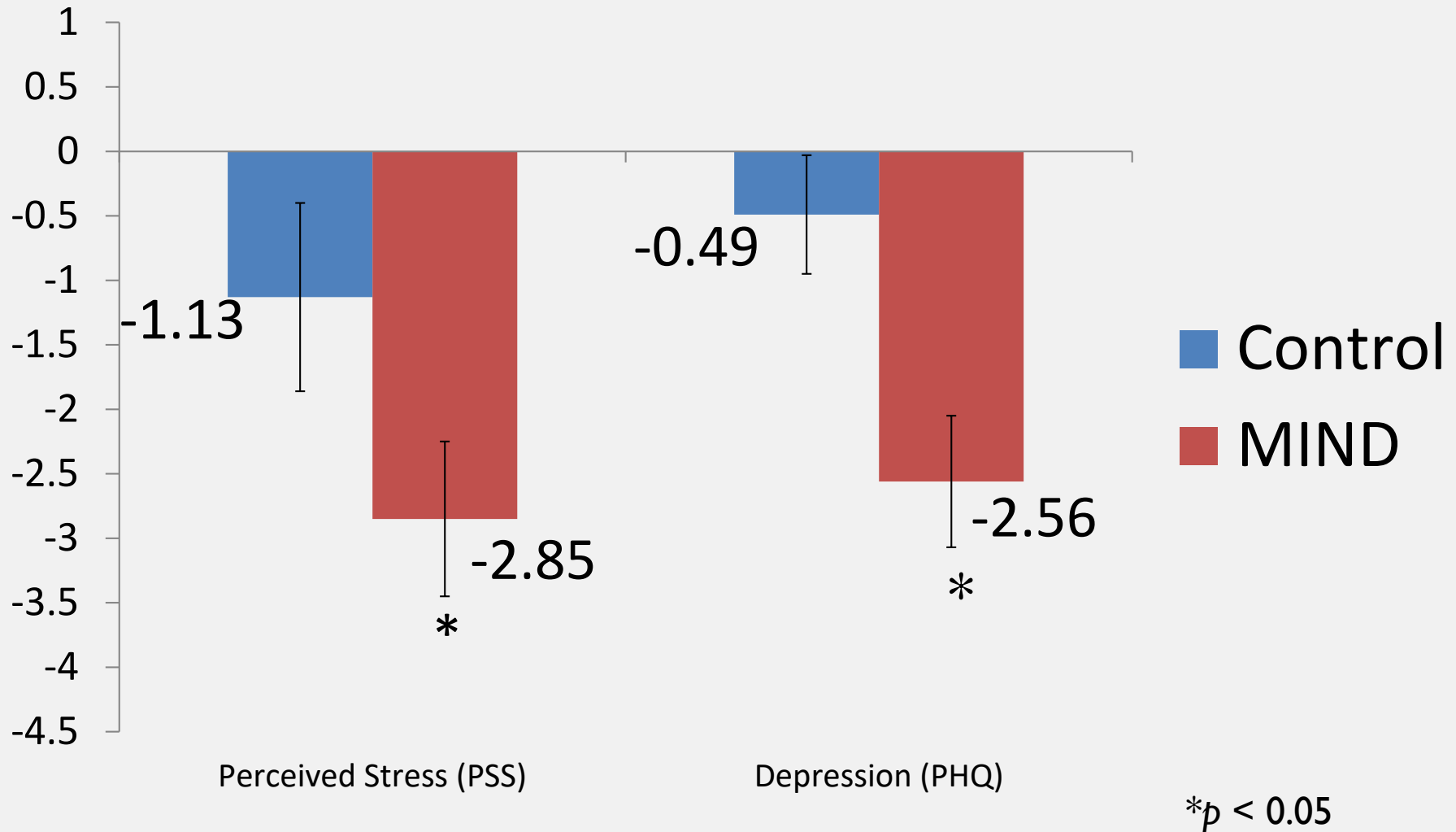


Adjusted for maternal age, maternal race, marital status, number of kids,
maternal education, and maternal pre-pregnancy SES

MINDFULNESS DURING PREGNANCY



MIND Reduced Distress



MIND Associated with Below IOM Weight Gain Guidelines (n=184)

		OR	95% CI	P-value
Below	MIND	3.77	1.24, 11.49	0.02
Adequate	Referent Group	-	-	-
Excessive	MIND	1.83	0.79, 4.23	0.16

Adjusted for age at enrollment (continuous), prepregnancy BMI (continuous), and gestational age at last visit (continuous)

MIND Associated with Lower Oral Glucose Tolerance Test (n=141)

mg/dl	Control Mean (SD)	MIND Mean (SD)	β	95% CI
OGTT	111.8 (27.7)	100.3 (23.3)	-11.8*	-20.6, -3.0

* $p \leq 0.009$

Adjust for prepregnancy BMI, number of previous children birthed, and age at enrollment

SAN FRANCISCO INITIATIVE TO END FOOD INSECURITY DURING PREGNANCY

- Systems level approach started with Community Health Plan
- Pregnant women are a main partner
- 10 Partners
- Funded with soda tax money

WOMEN REPORT AN ARRAY OF CHALLENGES



SF ENDING FOOD INSECURITY INITIATIVE

- Coordinating services
- Co-locating federal food programs
- Vouchers 4 Veggies - \$40 per month for 9 months in fresh fruit and vegetable vouchers



<https://eatsfvoucher.org/our-programs/nutrition-for-pregnant-women/>

CONCLUSIONS & FUTURE DIRECTION

1. Food Insecurity is a major stressor and highly prevalent
2. We need better food security and nutrition monitoring
3. Women need better access to fruits and vegetables
4. New organizational models are need to promote ending food insecurity during pregnancy

EXPECT WITH ME CENTERING DURING PREGNANCY

Session	Weeks	Theme	4-5 Topics
1	13-17	You're a healthy mom	Diet, PA, weight
2	17-21	Staying health and strong through change	Stress, sleep, safety
3	21-24	Breastfeeding = Healthy babies and moms	Breastfeeding
4	25-29	Health moms building health relationships	GDM, HIV,
5	27-31	Health moms and healthy labor	Labor, birth
6	29-33	Healthy labor	Stages, delivery
7	31-35	Healthy labor and health relationships	Relationships
8	33-37	Taking care of mom and baby	Caring for baby
9	35-39	Preparing for healthy future	Breastfeeding, DPS
10	37+	Build a health future	Work & child care

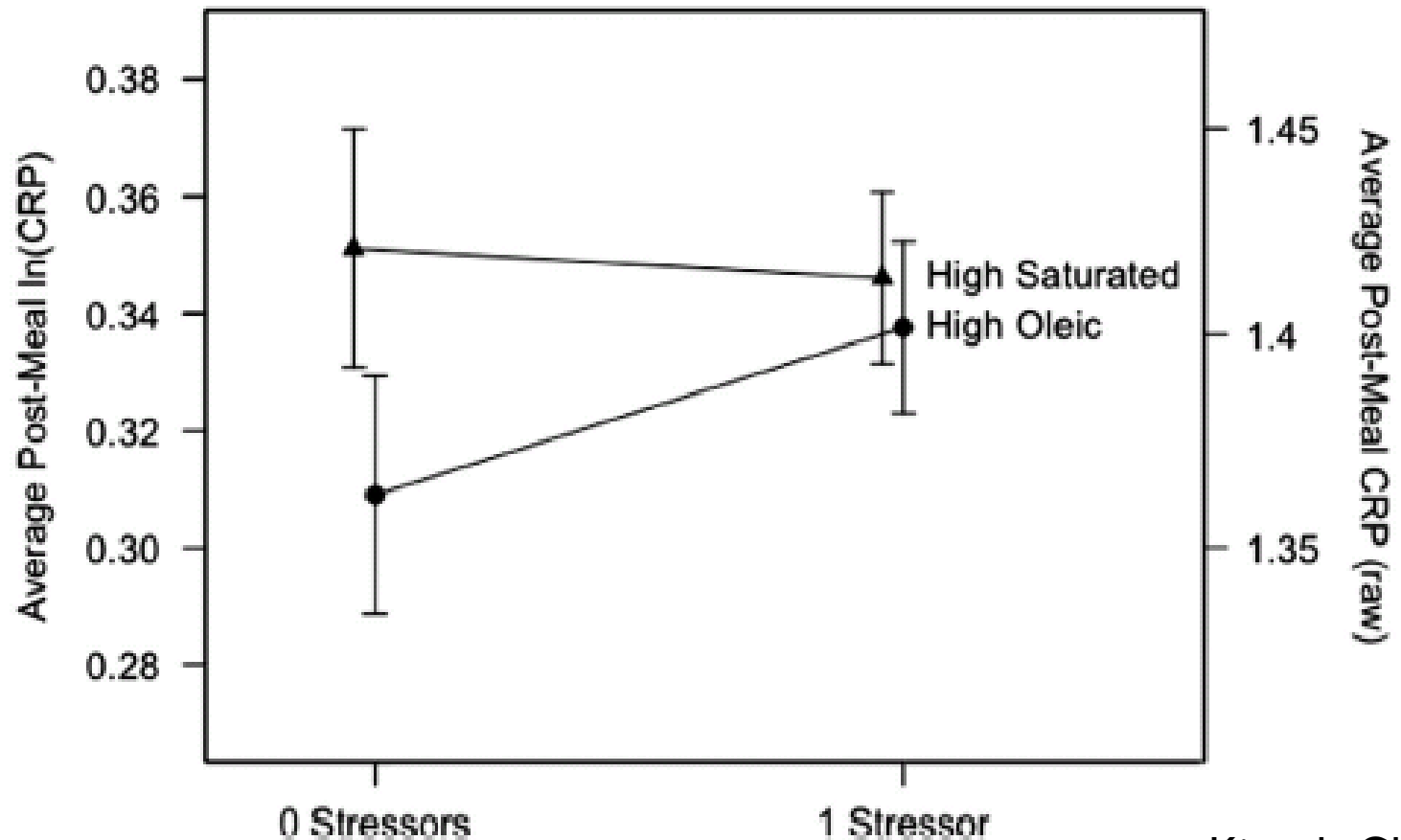
POSITIVE FEED-BACK BETWEEN DISTRESS AND HIGHLY PALATABLE FOOD



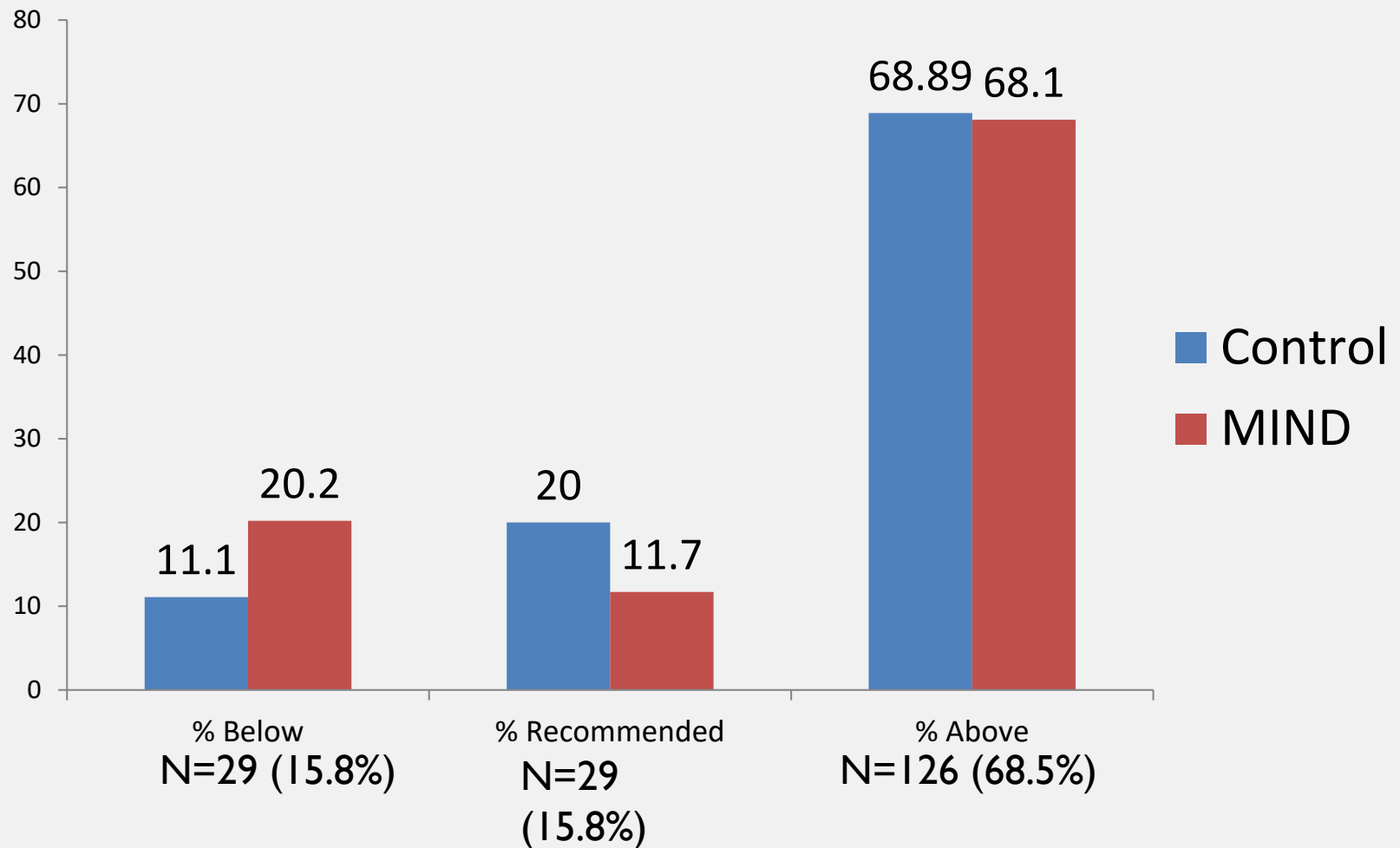
HYPER-PALATABLE FOODS

- HPF from the literature aligned with three clusters:
 - (1) Fat and Sodium
 - ($> 25\%$ kcal from fat, $\geq 0.30\%$ sodium by weight)
 - (2) Fat and Simple Sugars
 - ($> 20\%$ kcal from fat, $> 20\%$ kcal from sugar),
 - (3) Carbohydrates and Sodium
 - ($> 40\%$ kcal from carbohydrates, $\geq 0.20\%$ sodium by weight)
- FNDDS = 62% (4,795/7,757) of foods met HPF criteria.

↑ Inflammation From Healthy Fat in the Presence of Stress



MIND Did Not Decrease Excessive Weight Gain



MIND Improved Acceptance

