

Median American Intake of Fructose Does Not Produce Changes in Body Composition

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Introduction

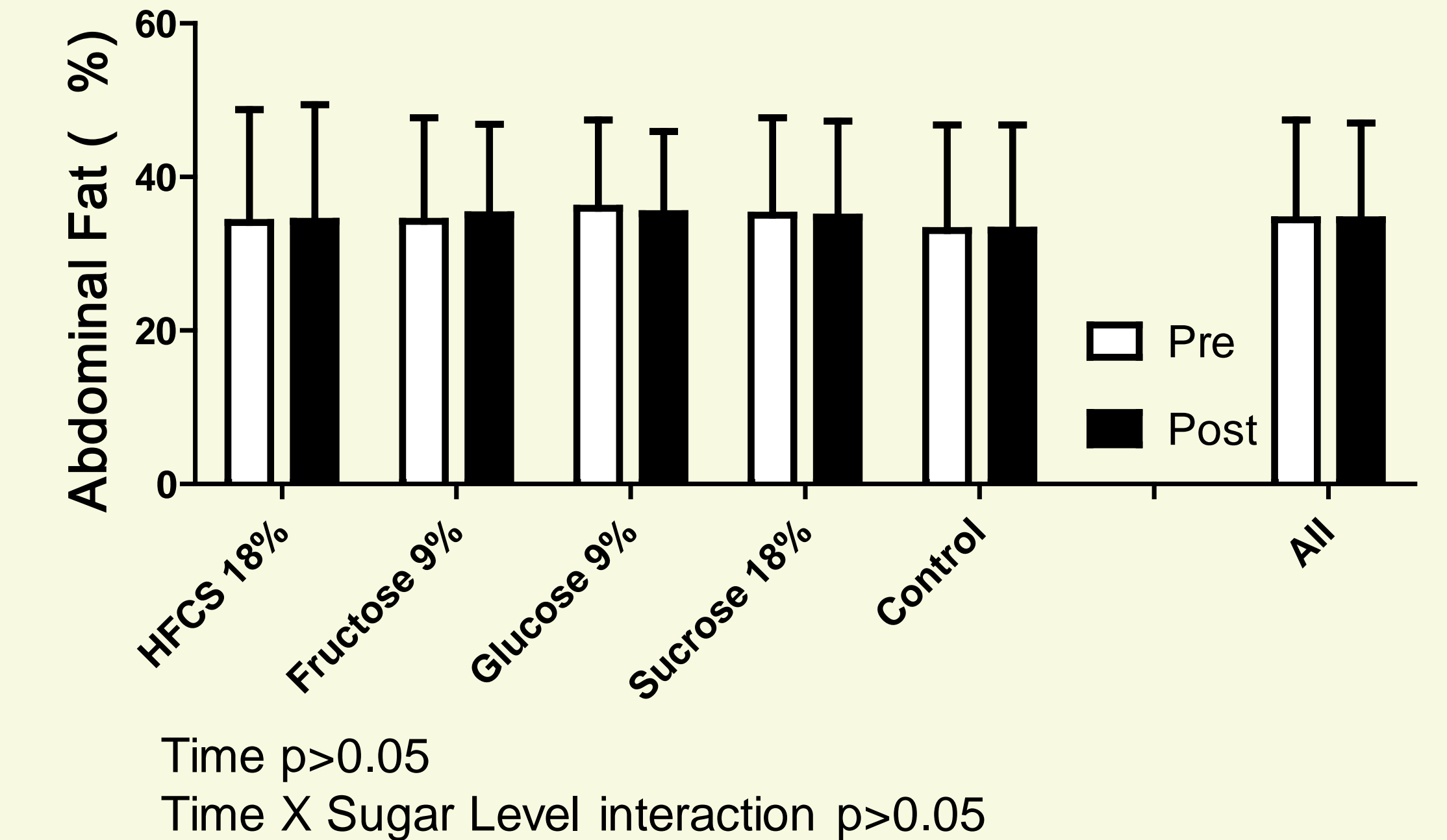
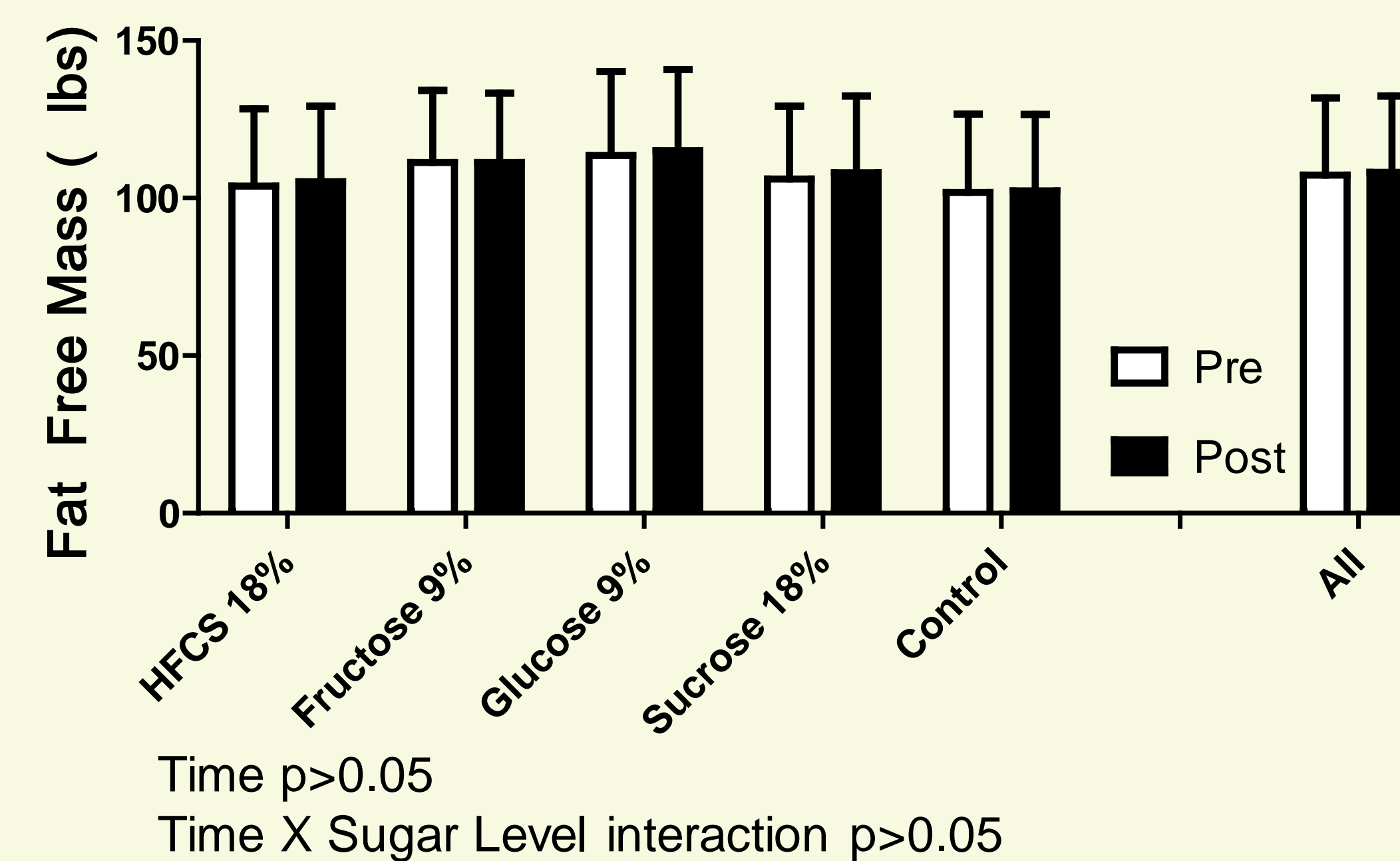
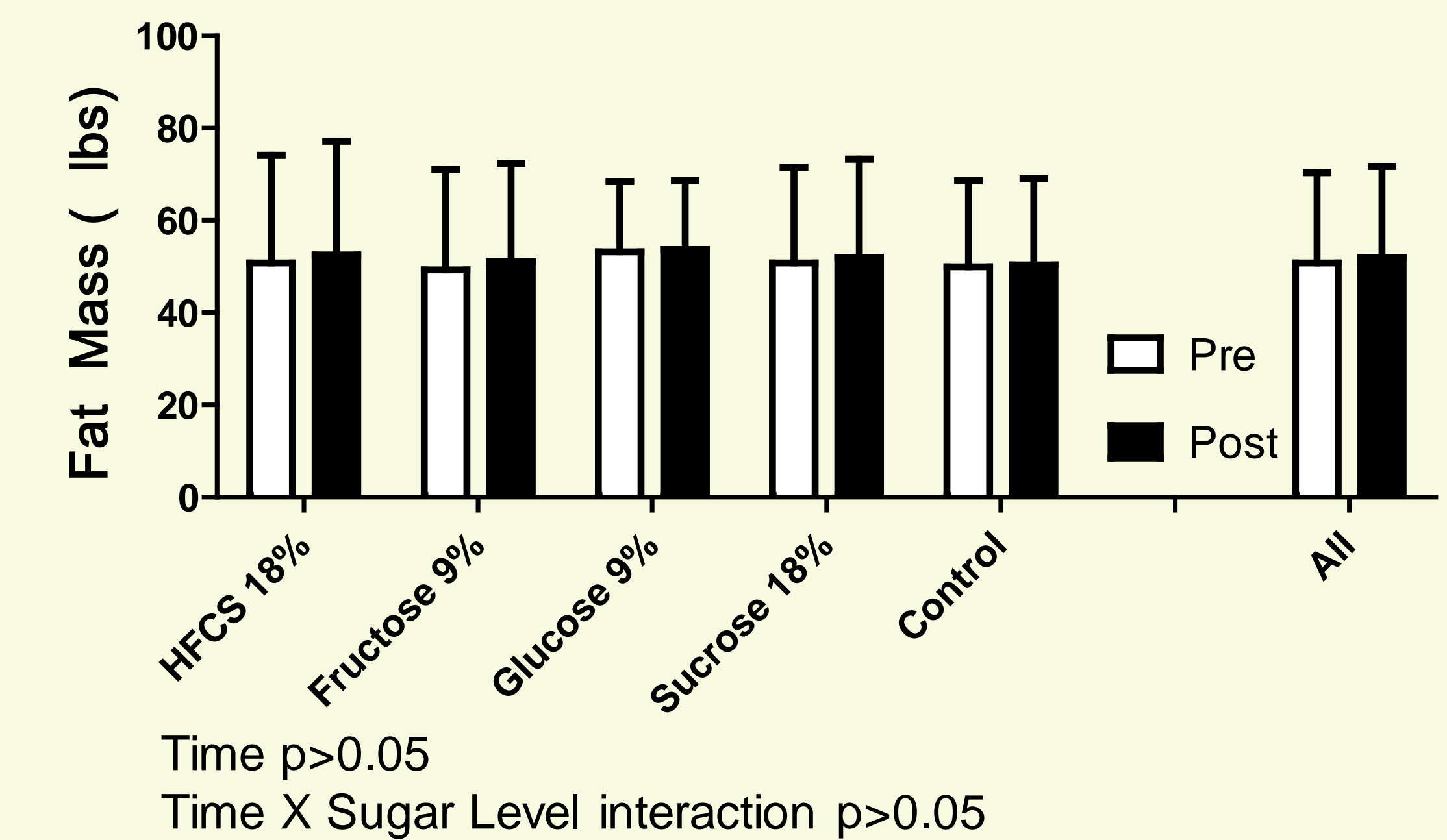
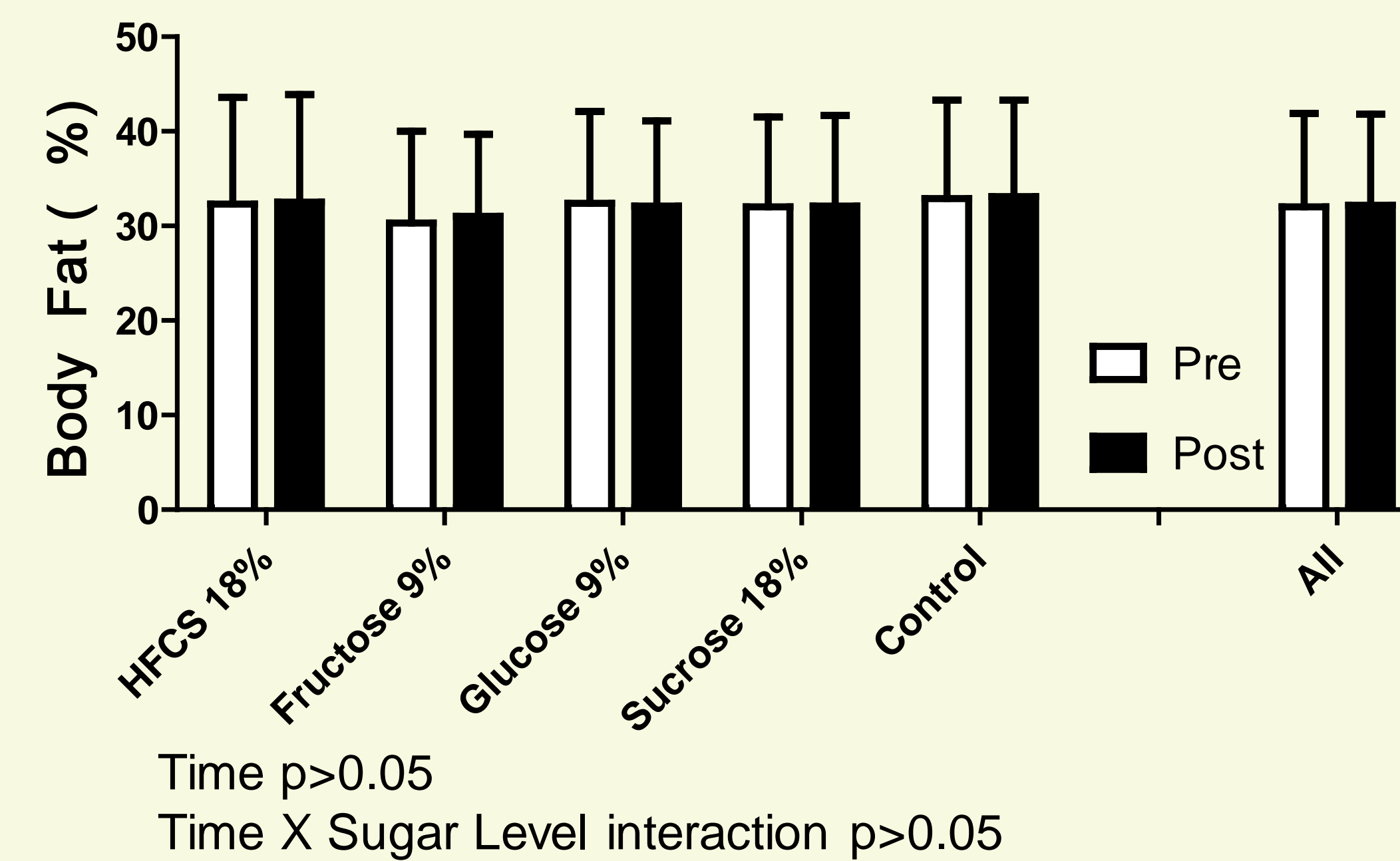
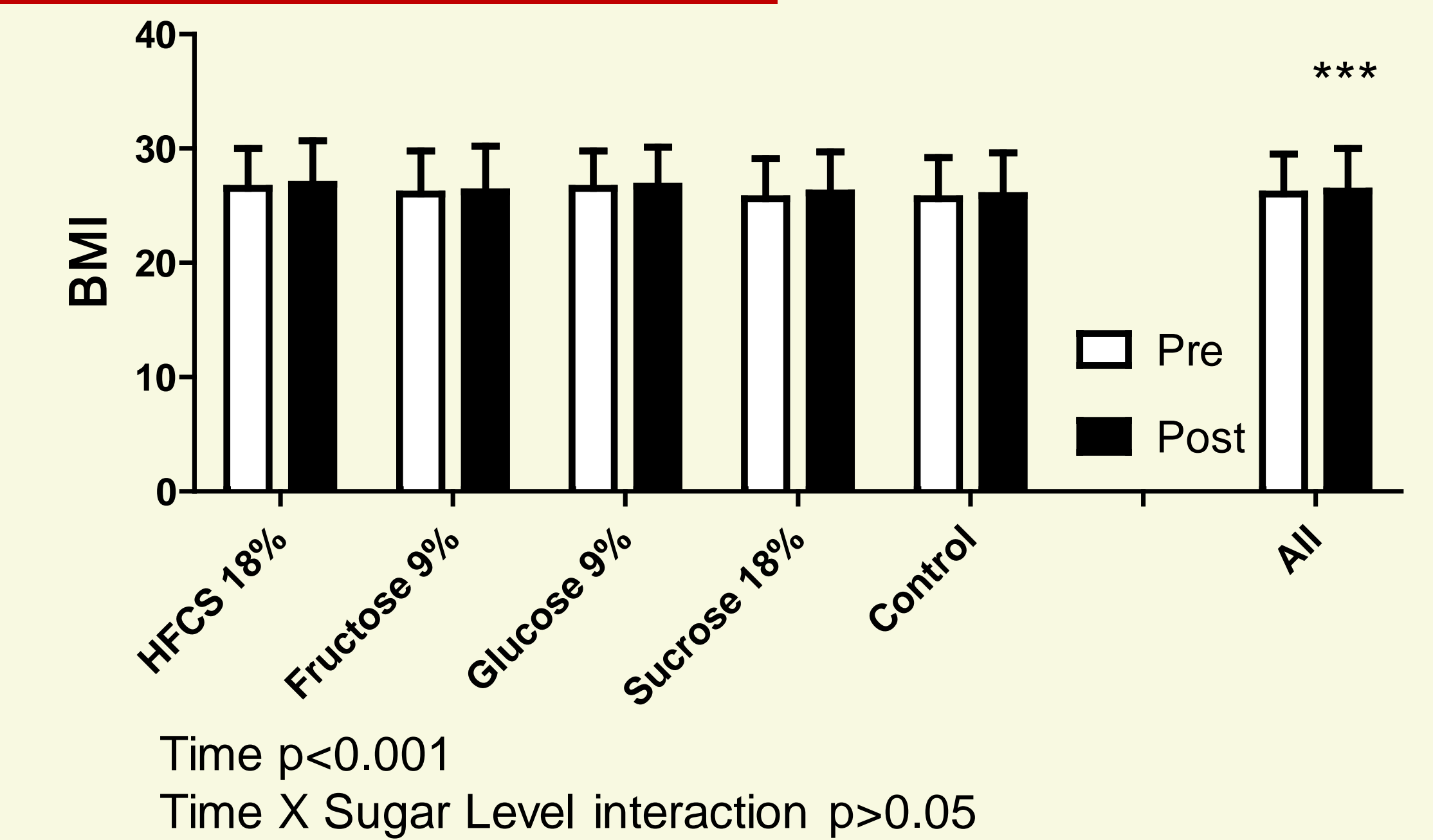
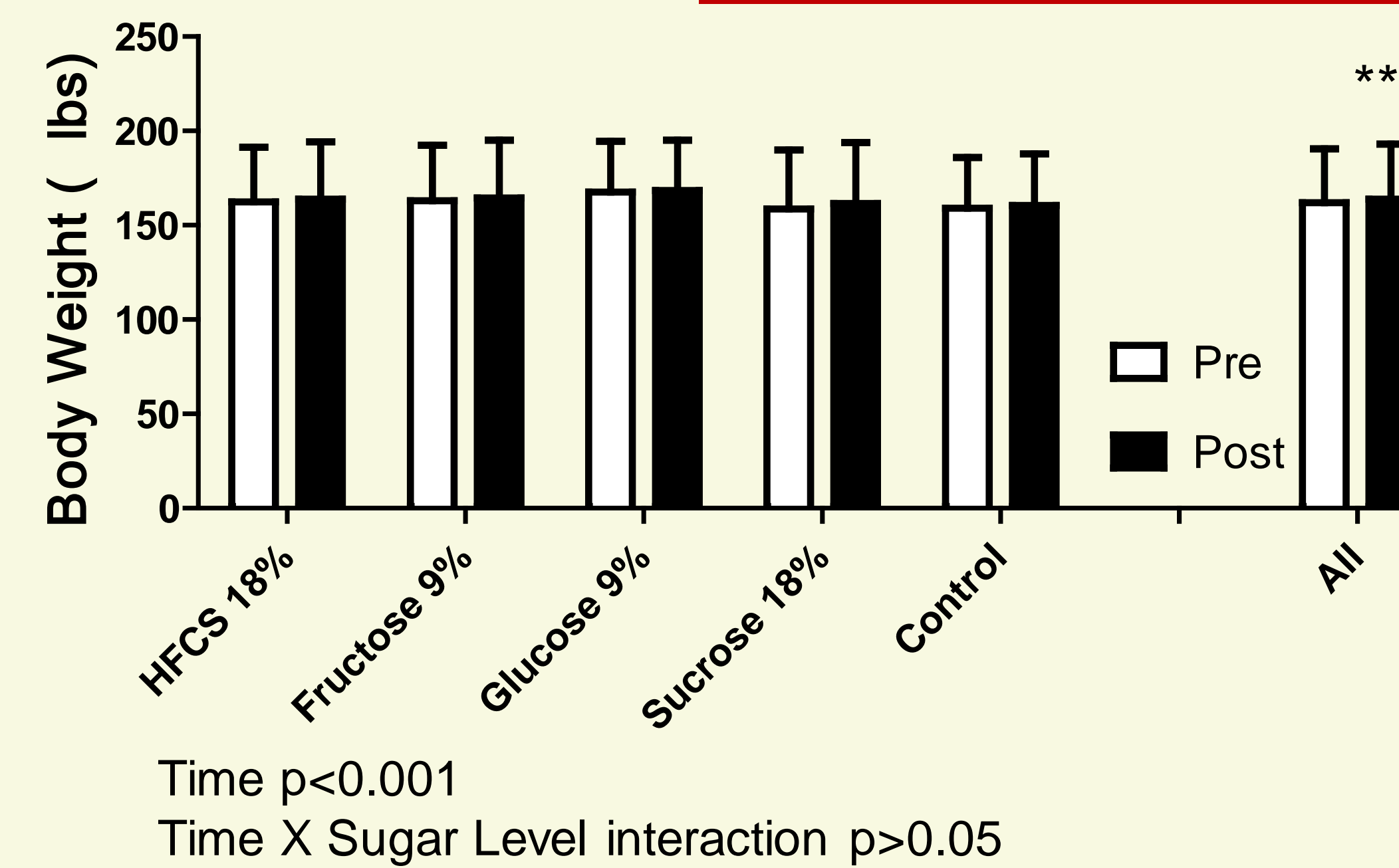
- Recent investigations of the role of leptin in energy regulation have suggested that fructose as a sugar may uniquely contribute to the development of obesity because of its low GI and subsequent reduced effect on leptin.
- Subsequent studies in animals have shown that very high doses of fructose can promote weight gain and the development of associated metabolic diseases.
- The applicability of these findings to human consumption is unclear because they do not represent how fructose is consumed in the human diet, which is virtually always in combination with glucose.
- The purpose of this study was to investigate the effects of the median intake of fructose, consumed through a variety of sources, on body weight and body composition.

Methods

- This was a study with a ten week intervention that included 156 normotensive, normoglycemic, apparently healthy individuals who were weight stable (no change in weight greater than 3% over the past three months) prior to enrollment.
 - Male=69, Female=87,
 - Mean age 35.7 ± 11.4 .
- Participants were randomly assigned to one of five groups - four that contained low fat milk with added sugar in amounts equivalent to the 50th percentile of fructose consumption in the US, and one unsweetened low-fat milk control group.
- Milk was consumed in amounts so that the added sugar contributed a target percentage of the calories required for weight maintenance.
- The groups were as follows:
 - Fructose 9%, Glucose 9%, High fructose corn syrup (HFCS)18%, sucrose 18% and an unsweetened milk control in which milk contributed 18% of the weight-maintenance calories.
- The energy intake required for weight maintenance was estimated for each participant using the Mifflin St Joer equation and using an appropriate activity factor determined by responses to a physical activity questionnaire.
- Body composition was assessed via iDEXA, and was performed in the fasting state prior to and after the intervention.
- Data were analyzed using ANOVA with repeated measures.

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Results



Discussion & Conclusion

- These data suggest that when consumed in ways and at levels typical of the American diet neither fructose nor fructose containing sugars promote fat gain.